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ABSTRACT

Report 7 from the National Assessment of Educational Progress, a project of the Education Commission of the States, is based on the results of a 1969-70 survey designed to measure the scientific knowledge of the nation's children and young adults. This report is a completely revised edition of a previously published preliminary volume (ED 067 220). The results cover the performance of Blacks, of respondents with differing levels of parental education, and from different types of communities. Blacks performed between 11.8 and 15.8 percent below the national average at the four age levels tested: 9, 13, 17 and young adults (26-35). When results were adjusted for disproportionate type of community, parental education, sex, and regional representation, the median results for Blacks were still below national results, but by amounts substantially less than those which do not take the balancing factors into account. The residual disadvantages were between -7.7 and -11.0 percent for the four age groups. Blacks performed best on those science exercises most dependent upon daily experience and common knowledge, and poorest on those which involve a detached research attitude toward the objects and phonomena of science. (Author/JR)

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SCIENCE

GROUP RESULTS B

REPORT 7

1969-70 Assessment

Group & Balanced Group Results for Color, Parental Education, Size and Type of Community and Balanced Group Results for Region of the Country and Sex

NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS
A PROJECT OF THE EDUCATION COMMISSION OF THE STATES

SE 016 787

NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS

A Project of the Education Commission of the States

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Assessment Reports

# 1	Science: National Results	July, 1970
# 2	Citizenship: National Results	November, 1970
# 3	Writing: National Results	November, 1970
# 4	Science: Group Results A	April, 1971
# 5	Writing: Group Results A	April, 1971
# 6	Citizenship: Group Results A	July, 1971
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#02-R-00	Reading: Summary (Preliminary Report)	May, 1972
#02-R-20	Reading: Released Exercises (Preliminary Report)	May, 1972
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#02-L-01	Literature: Understanding Imaginative Language (Theme 1)	March, 1973
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#02-L-02	Literature: Responding to Literature (Theme 2)	April, 1973
#02-R-01	Reading: Understanding Words and Word Relationships (Theme 1)	April, 1973
#02-L-03	Literature: Recognizing Literary Works and Characters (Theme 3)	April, 1973
#02-R-03	Reading: Written Directions (Theme 3)	May, 1973
#02-R-05	Reading: Gleaning Significant Facts from Passages (Theme 5)	May, 1973
#11	Writing: Group Results A & B	May, 1973
#02-R-08	Reading: Critical Reading (Theme 8)	May, 1973
#02-L-04	Literature: A Survey of Reading Habits (Theme 4)	May, 1973
# 7	Science: Group Results B	May, 1973

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NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS

A Project of the Education Commission of the States

REPORT 7

SCIENCE:

GROUP AND BALANCED GROUP RESULTS FOR

COLOR
PARENTAL EDUCATION
SIZE AND TYPE OF COMMUNITY

AND

BALANCED GROUP RESULTS FOR

REGION OF THE COUNTRY
SEX

May, 1973

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SUMMARY

The main purpose of National Assessment is to measure what the nation's children and young adults know and can do, in order to see what changes occur from time to time. Science was assessed for a national sample of respondents in 1969-70. After science has been assessed again in 1972-73, reports of science results will emphasize what seems to have been learned better, and what less well. In the meantime, our reports necessarily are confined to the results of the only administration of science exercises conducted so far.

National Assessment Report 1 gave national percentages of success for science exercises. Report 4 examined percentages of success for groups, comparing percentages correct between the two sexes, among four geographical regions and among four sizes of community.

The present report extends the results to cover the performance of Blacks, and of respondents with differing levels of parental education and from differing types of community. For each group on each of these characteristics, we describe performance differences as they are. In addition, for each group, including those examined in Report 4, we discuss differences as we estimate they might have been if the other four characteristics had been proportionately represented in each group. (See appendix B for further discussion).

Selection of Summary Values

Science exercises were administered at the student ages--9, 13, and 17--and to young adults between the ages of 26 and 35. Roughly 100 exercises were administered at each age. For each exercise at every age, we focus upon the percentage of correct responses.

To represent the typical performance level for a single exercise for a given group--e.g., females, Northeasterners, residents of small cities--it is natural to consider the difference between % success (percentage of correct responses) for that group and % success for all respondents of that age. As a summary for all exercises, the median difference--the midpoint of the differences for all exercises--is appropriate and effective.

The summary values reported in the section were chosen so

as to emphasize general behavior and minimize group disparities that might be misleading. To represent typical performance of a given group, in this summary we report just one number for students and another number for young adults. Each of the ages 9, 13, and 17 has a median difference; we choose the middle one of these as the summary number for students. The summary value reported for adults is the median difference for young adults. While these summaries tell the general story, examination of individual exercises and summarization of the differences in behavior between groups of exercises is also needed.

Limitations of Unadjusted Results

In the previous report of group results on Science (National Assessment Report 4) the following cautionary statement was made:

> There is a kind of interpretation that should never be made on the basis of the sort of figures given in this report. The fact that figures reflect Southeast performance or Big City performance does not mean that the performances thus reflected have arisen precisely from living in the Southeast or in a Big City, or from the attitudes, techniques, facilities and staffs of the school system involved. In particular, just what happens in a region involves other things than that region's schools. Larger fractions of the children in some regions belong to a particular size of community group. Thus effects due only to size of community can appear to be regional differences. Larger or smaller fractions of the parents in some regions have particular amounts of education. Thus effects due only to parental education can appear to be regional differences. And so on. Migration from one region or size of community to another can further complicate the picture. There are such difficulties, some of which we know how to adjust for, and some of which we do not.

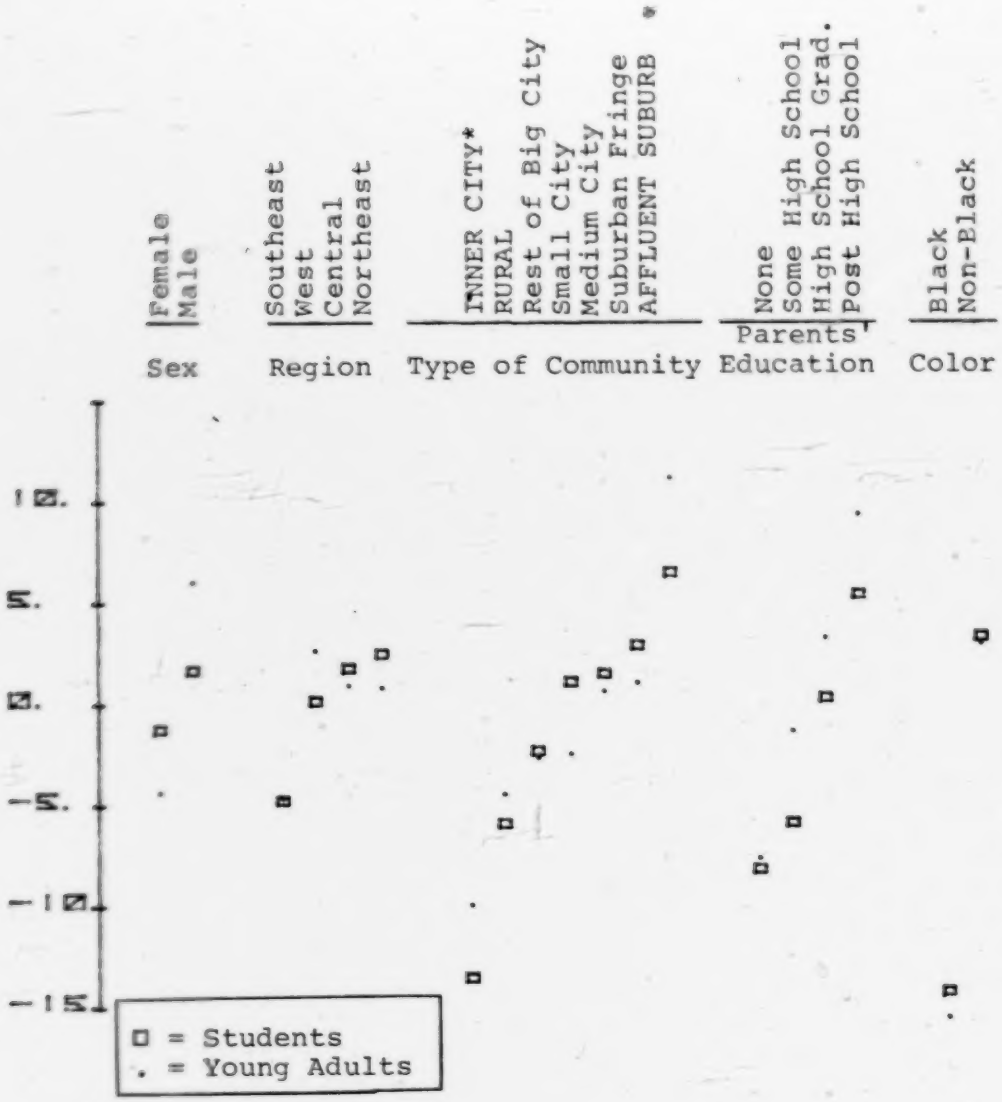
Great caution should also be exercised in interpreting the results for the group variables from the present report. Attempts, based on results reported here, to assign causation to any particular set of educational factors, or to any variables from the heredity-environment complex would be unjustified.

Unadjusted Results

The unadjusted results are shown graphically in exhibit S-1 and numerically in exhibit S-2.

Exhibit S-1

Summary Values of Unadjusted Results for Groups



*The three extreme size and type of community groups labelled in capital letters were specially selected to each include about 10% of all respondents and to be as extreme as could be conveniently defined. Definitions for all the groups appearing in this exhibit may be found in Appendix D.

Exhibit S-2

Summary Values of Unadjusted Results for Groups

Group	Student Median Effect	Adult Median Effect
Females	-1.4%	(-4.6%)
Males	1.5%	(5.8%)
Southeast	-4.9%	(-4.9%)
West	0.0%	(2.4%)
Central	1.6%	(.7%)
Northeast	2.3%	(.6%)
INNER CITY*	-13.7%	(-10.2%)
RURAL	-6.1%	(-4.7%)
Rest of Big City	-2.5%	(-2.9%)
Small City	.9%	(-2.7%)
Medium City	1.3%	(0.4%)
Suburban Fringe	2.7%	(0.8%)
AFFLUENT SUBURB	6.3%	(10.9%)
Parents; no high school	-8.4%	(-7.9%)
Parents; some high school	-6.1%	(-1.6%)
Parents; graduated high school	0.1%	(3.0%)
Parents; beyond high school	5.2%	(9.1%)
Black	-14.5%	(-15.8%)
Non-Black	+3.1%	(+2.7%)

The largest differences--those between one extreme group of a kind and the other--are:

Sex	2.9%	(10.4%)
Region	7.2%	(7.3%)
Size and type of community	20.0%	(21.1%)
Parents' education	13.6%	(17.0%)
Color	17.6%	(18.5%)

---

* The three extreme size and type of community groups labelled in capital letters were specially selected to each include about 10% of all respondents and to be as extreme as could be conveniently defined. Definitions for all the groups appearing in this exhibit may be found in appendix D.

"Double Counting"

Blacks are more frequent in extreme inner cities, than in the country as a whole, persons whose parents had no high school are more frequent in extreme rural areas than in the country as a whole, persons whose parents went beyond high school are more frequent in extreme affluent suburbs, and so on. If persons from extreme affluent suburbs do well, we can expect that those from families with high parental education will do well also. Some of what the unadjusted results mean for both of these groups comes from high performance by exactly the same persons.

When we want to think about more than one kind of grouping at the same time, such "double counting" can be both misleading and confusing. A simple way to ensure that individuals get counted only once is to assign part of any observed performance difference to each of the subgroups concerned. This is one way to look at the construction of balanced effects.

When we do this, it is natural to make the sum of the parts add up to the whole. The unadjusted effects:

extreme affluent suburb	+6.3%
parents beyond high school	+5.2%

should not be added together, since an extra proportion of students are included in both. The balanced effects:

extreme affluent suburb	+3.3%
parents beyond high school	+4.0%

can be added together much more sensibly. (The sum +7.3% = 3.3% + 4.0% is the comparative performance of those students who both live in an extreme affluent suburb and have a parent educated beyond high school.)

Limitations of Balanced Results

Planning the improvement of our educational system would be very much easier if we knew how much change in percent successful performance would come about if we could and did change various factors, such as parents' education. The practical, dollar-on-the-barrel-head form of question would be exactly this: how much change in product could we buy by making each of certain specified changes in schools, communities, or homes? Neither the results of National Assessment or those of any other study of "what now is" offers trustworthy estimates of amount of change in educational performance for given changes in input. Only experiments, which at best would be difficult to carry out with sufficient care--and which at worst would be impossible--could provide such estimates.

Every factor National Assessment has been able to use as a basis for analysis stands not only for the factor indicated by its name, but also for a variety of other factors National Assessment did not, or could not measure--other factors which are associated, in today's population, with the named factor. Each effect, unadjusted or balanced, combines the influences of factors, some identified and others not (a somewhat smaller group, of course, for each balanced effect than for the corresponding unadjusted effect).

Although the complete picture of all the factors determining educational achievement is certainly not known, we have strong evidence that a wide variety of factors are involved and we have a good idea of what many of these factors are. Some examples: (1) approval of learning by family and peers; (2) innate intelligence; (3) adequate health and nutrition; (4) a stimulating learning environment in the school (and, possibly, in the neighborhood); and (5) an appreciation of education and its relevance by the student.

These examples are all rather abstract and National Assessment did not measure such variables. It is true, however, that some of the factors collected are--or might reasonably be presumed to be--sensitive to such variables. Indeed the groups of students differentiated by such National Assessment factors as region, STOC, and parents' education do differ markedly in their achievement. However, some of the variables one might consider to be of primary importance are not tapped in any clear way by the factors National Assessment collected. Thus, even though it may be incomplete or inaccurate, the child's statement of his or her father's and mother's education probably measures to some extent parental approval of education, but none of our data are explicitly tied to the approval or disapproval of the child's peers. If this is an important determinant of achievement, its effects might easily masquerade as part of the effect of color or extreme inner city or both.

Even the variables that are in the analysis may not be just what they seem. Thus, parental education may be a less good indication of parents' positive contributions to their child's education than is the type and size of their chosen community.

For such reasons, we cannot presume that the names we use to describe our factors describe what they measure, so far as our analyses go. In interpreting the balanced results we must: (1) remember the many important variables that were not measured, and, (2) realize that much of the effect our analysis seems to attribute to some factors may be due to other factors or other variables. So long as we recognize that balanced effects have these sorts of difficulties, we can gain by looking at the balanced results--sometimes in place of the unadjusted ones and sometimes in comparison with them.

Even balanced effects, of the sort and quality provided by this study, are not sufficient to firmly establish--or closely measure the extent of--causation by any particular factor or factors.

We must refrain from attempts to ascribe firmly established causation to any particular set of educational factors or to any variables from the heredity-environment complex. If we look at the balanced results, we avoid a few specific difficulties, of which "double counting" is an example. We leave untouched a variety of other difficulties whose size we do not know how to assess. Used tentatively, however, the balanced results are probably better guides to the operation of the mechanisms involved, while the unadjusted results show more clearly the problems that the people and the schools of this country face.

For Science 1970-71, balanced effects are smaller than unadjusted ones. In fact, considering the limited number and character of the factors actually measured and analyzed, these restrictions are quite large. Some were reduced to less than half of their unadjusted values. Indeed, it is not unreasonable to speculate that if additional (and more directly relevant) factors had been available for the analysis, some differences might have been reduced to negligibility. For example, in the analysis reported here we use education of parent as one of the balancing variables when looking at type of community effects. The measure of parent education was a four category representation of years of schooling. In terms of effects on a child's performance on science exercises, however, a much more relevant measure of the home influences on the child's learning might have been the kind and quality of the parents' education--or the attitude of the parents toward the value of an education--or the time spent by the mother in reading to the child in the years before he entered school--or the number and kinds of books and magazines in the home.

Of course, as additional factors that reflect the same kinds and qualities of influences are introduced into an analysis, the effect of any particular additional factor is likely to be smaller and the direction of its effect harder to predict.

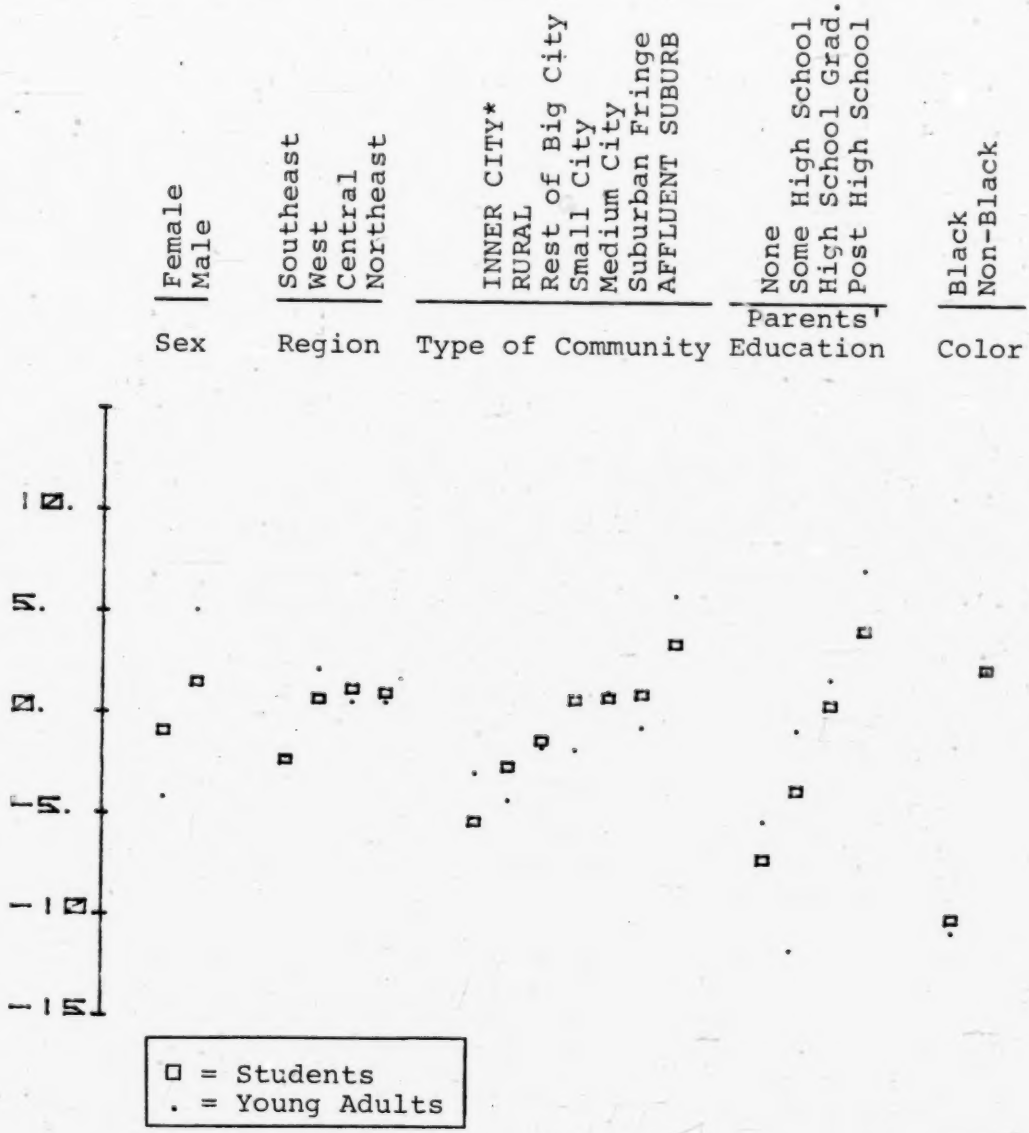
Thus, speculations concerning the effect of balancing for additional factors have to be only speculations.

Besides the absence of important factors, we need to notice that the factors we have used (1) are measured only in coarse subgroupings and (2) are measured with varying amounts of error. The presence of these difficulties usually leads to smaller reductions by balancing than would be observed in their absence.

If we are fortunate, the change from unadjusted to balanced

Exhibit S-3

Summary Values of Balanced Results for Groups



*The three extreme size and type of community groups labelled in capital letters were specially selected to each include about 10% of all respondents and to be as extreme as could be conveniently defined. Definitions for all the groups appearing in this exhibit may be found in Appendix D.

is a step in the right direction, but we do not know what fraction of the way it has taken us.

Balanced Results

The balanced results are shown graphically in exhibit S-3 and numerically in exhibit S-4.

Exhibit S-4

Summary Values of Balanced Results for Groups

Group	Student Median Effect	Adult Median Effect
Females	-1.1%	(-4.4%)
Males	1.3%	(4.8%)
Southeast	-2.5%	(-2.4%)
West	.5%	(1.9%)
Central	1.0%	(.3%)
Northeast	.8%	(.3%)
INNER CITY	-5.5%	(-3.2%)
RURAL	-2.8%	(-4.5%)
Rest of Big City	-1.5%	(-1.9%)
Small City	.5%	(-2.0%)
Medium City	.6%	(.8%)
Suburban Fringe	.8%	(-.9%)
AFFLUENT SUBURB	3.3%	(5.6%)
Parents: no high school	-7.3%	(-5.5%)
Parents: some high school	-3.9%	(-1.0%)
Parents: graduated high school	.3%	(1.5%)
Parents: beyond high school	4.0%	(6.9%)
Black	-10.2%	(-10.9%)
Non-Black	2.1%	(2.0%)

The largest differences--those between one extreme group of a kind and the opposite extreme--are:

Sex	2.4%	(9.2%)
Region	3.5%	(4.3%)
Size-and-type of community	8.8%	(10.1%)
Parents' education	11.3%	(12.4%)
Color	12.3%	(12.9%)

---

* The three extreme size and type of community groups labelled in capital letters were specially selected to each include about 10% of all respondents and to be as extreme as could be conveniently defined. Definitions for all the groups appearing in this exhibit may be found in appendix D.

These are appreciably reduced from the corresponding differences among unadjusted effects. The extreme differences for sex and for parents' education are about 5/6 as large after balancing as they were before, that for color is about 2/3, and the extreme balanced differences for region and for size and type of community are about 1/2 of their adjusted counterparts.

After balancing, only one region and only the three extreme size and type of community categories show large effects. Indeed, if we consider only: (1) the three regions other than the southeast, and (2) the four sizes and types of community other than the three extremes, the largest differences are:

	balanced	unadjusted
3 regions	.5% (1.6%)	2.3% (3.1%)
4 sizes & types	2.3% (2.7%)	5.3% (3.7%)

This leads to the following comparisons of largest differences:

	balanced	unadjusted
3 regions	0.5%	2.3%
4 sizes & types	2.3%	5.3%
sex	2.4%	2.9%
Southeast (*)	-3.3%	-6.5%
Extreme types	8.8%	20.0%
Parents' education	11.3%	13.6%
Color	12.3%	17.6%

(*) compared with median of other three regions. Clearly large differences appear only for:

extreme types of community
parents' education
color

no matter whether we look at balanced or unadjusted results.

Differences Between Kinds of Exercises

Respondents reporting neither parent completing high school had exceptional difficulty on exercises requiring special vocabulary knowledge or reasoning from graphs and pictures.

Those exercises on which Blacks performed relatively better seemed to involve knowledge of common phenomena--particularly exercises whose answers might be gained from daily experience. Those exercises on which Blacks performed relatively poorer seemed to involve a detached research attitude toward the objects and phenomena of science--exercises whose answers are more likely to come from school experience.

As in National Assessment Report 4, there is a slight tendency for exercises assigned to objective 2 (possess the abilities and skills needed to engage in the processes of science) to display stronger differences between groups than exercises assigned to objective 1(know the fundamental facts and principles of science). Among the variables newly analyzed in this report, this tendency is most clear for color results.

Limitations of Response and Measurement

Two other special limitations should be noted that apparently contribute to some irregularity in the patterns of results for age 17. The out-of-school sample included at this age suffers from the problem that many teenagers are difficult to locate at home. Among the subgroup of 17-year-olds who cannot readily be found or will not cooperate are probably a large number of individuals who have been quite unsuccessful in school and are antagonistic to scholastic tasks. Thus the 17-year-olds available in the sample might be expected to perform well compared to unavailable 17-year-olds. The problem is compounded by the possibility that certain subgroups might be unavailable in greater proportion than other subgroups. This may be the case with 17-year-old Blacks, for example, since the relative number of Black males in the 17-year-old sample is only about 3/4 the number at ages 9 and 13. Thus, the 17-year-old Black sample might be selectively different from the Black samples at other ages. In fact, the results to be examined in chapter 2 show that Black 17-year-olds do perform relatively better than Blacks at other ages.

Similar difficulties occur for the young adult sample, where 44% of those approached refused to participate.

A further difficulty at age 17 is that there happened to have been a larger number of very difficult exercises than at other ages. (See page 10 of Report 1). To the extent that very difficult exercises differentiate subgroups less sharply than other exercises, the differences among subgroups will be reduced at age 17.

Information about student's parents' education was obtained either from students or from school records. At ages 9 and 13 many respondents could not be assigned to parents' education subgroups and some that were assigned were undoubtedly assigned in error.

CHAPTER 1

THE MERITS AND WEAKNESSES OF ADJUSTMENT (INCLUDING BALANCING)

The educational administrator wants to make comparisons between groups, to find out who is learning more and who less, in hope of being able to improve performance in the lagging groups. Indeed, he would like to go further and find out what factors to change and how much changes in these factors would strengthen the educational achievement of the students affected. For example, when we find that boys know less about the reproductive system of both sexes than do girls, this raises at once the question of strengthening the education of boys. Inevitably the desire is to subdivide the country into finer and finer groups so as to compare subgroups that have "everything alike" except the variable being studied.

In other words, we search for causes of the differences. Unfortunately, we cannot have "everything alike" in social problems and rarely in physical problems either, and so we are not actually able to carry out the precise program. But half a loaf may be better than none, and so we may carry out that part of the program that seems feasible. We subdivide by important variables and make comparisons in performance among subgroups.

One thing that happens is that as we introduce several variables the number of subdivisions grows like a product. For example, if we have 5 variables with 2, 3, 5, 7, and 4 categories respectively, we have 2 x 3 x 5 x 7 x 4 = 840 groups, and a sample of 8400 people would give an average of only 10 per group. Naturally many groups would be empty and many fuller than 10, but it may now be hard to make comparisons among groups, for some will be too sparse.

We might try to avoid these sparse cells by looking at factors one at a time.

However, children in the extreme affluent suburb tend, more than children in the extreme inner city, to have better educated parents. Because of this lack of balance, part of the difference between these two groups may be considered as growing out of the difference in parental education.

It is natural to ask, "What would the difference between these extreme types of community have been if the distribution

of parental education, sex, color, and region had been the same for both types of community referred to above?" Were it possible to rearrange the world to equate these distributions for each type of community, the effects upon our nation and its schools would be profound. Such rearrangement is not possible. It is usually appropriate to think of the balanced results presented in this report as reflecting the differences we would see in the absence of masquerading by the other four factors. We can be reasonably sure that the balanced results do a much better job than the unadjusted results of reflecting such differences. Appendix B presents more details about the nature and computational procedures of balancing.

Still another question concerns the combination of factors. The performance of a given subgroup may be found to differ, depending upon subgroupings on other variables. Thus, the effect associated with extreme affluent suburbs may be different in the Northeast and the Southeast. Or the effect associated with sex may be somewhat different for Blacks and non-Blacks. These interactive differences are not considered in this report and balancing does not adjust for them.

It is natural to ask whether this or any such method of analysis can help us. To some extent they can aid, to some extent not. We cannot make up for cases we don't have but we may be able to supply approximate analyses that will come near to answering such a question as what is the effect of region of the country on performance when you control for STOC and several other variables. If the effect of region is substantially reduced by the analytical adjustment, we may be inclined to think that region is not in itself the cause of the raw differences as much as the other variables. One role of adjustment then is to help us make approximate comparisons and summaries that we cannot make by directly subdividing all the variables. In this report we exploit extensively one special method of adjustment called balancing, which we explain in appendix B.

Elsewhere we have many cautionary remarks about the dangers of misinterpreting the causative powers of given background variables, for they may be poorly measured and they may not mean what they say. For an example from the field of warfare, in World War II the more fighter opposition that bombers had, the closer to the target were the bombs. Why? Fighters didn't come up when the weather obscured the target. Such proxy variables, especially when their implication may be the absolute reverse of their obvious logical effect, puts us in grave danger of making mistakes. We do not go further into that here.

Nothing but experimentation, if that, can serve to demonstrate what the actual effect of changes will be. We are, however, trying to get hints and insights from the data we have.

Furthermore, if someone does have a causative model involving the variables National Assessment measures, he does have a chance to check it against these results.

We see then that the purpose of analysis and adjustment is to help the data reveal information that they cannot give in their raw form. Aside from the dangers of misinterpretation, we have the political arguments for and against adjustment. First, against: if adjustment for background variables seems to reduce the differences between a group of the population and the national average, it has been argued that this tends to minimize the disadvantage of the group and, it is further argued, that adjustment should not be made. The direction of the effect of an adjustment is not necessarily one-way; adjustments can increase differences as well as decrease them. Those arguing against adjustment in the reduction case would presumably argue for it in the case of increased discrepancies.

A second argument favors adjustment. It argues that we must adjust for important variables (presuming that the adjustment will reduce effects) so that we show the potential of the disadvantaged group.

Clearly the people making the first and second argument want the same thing, to improve the position of the disadvantaged group, and of course, this is a national goal. Steps toward achieving such goals do depend on searching for causes and methods of improvement, on finding weak spots in a system and so on. We should therefore look at our data in every way we can for hints about how the system works and how to improve it. Analysis and adjustment are tools for doing this. The question is not whether to adjust or not, but, "What are the useful ways?", "What do the variables mean?", "What further variables do we need to measure?", and "How shall we interpret the results?"

CHAPTER 2

COMPARATIVE PERFORMANCE OF BLACKS

In view of the widespread national concern with the educational disadvantage of Blacks and other minority groups, National Assessment was designed so as to begin an evaluation of the details of such possible disadvantage. The color of each respondent was noted by the exercise administrator on the assessment package as answers were turned in. During year 01, color was noted as "Black" or "White" or "Other" by the administrator. The non-Black category in addition to many Whites, included Orientals, Mexican-Americans, Indians and some Puerto Ricans. The present chapters give results for Blacks in this first cycle of Science assessment. The standard measure of relative performance on each exercise is the difference between the percentage of correct answers given by Blacks and the national percentage of correct answers. These measures give benchmarks for evaluating potential progress in later assessment cycles.

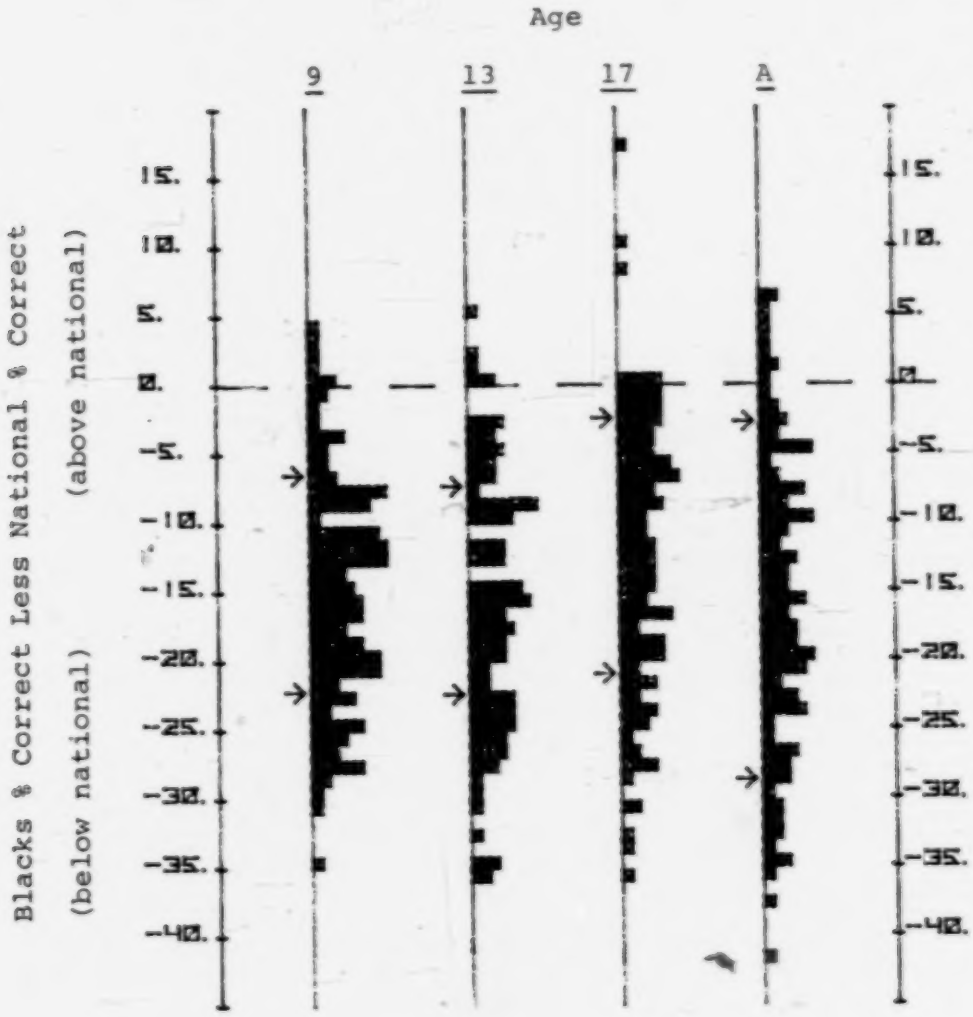
The performance of the Black respondents in National Assessment can reflect individual, school or environmental factors, and there is no sure way to disentangle the complex web that represents the Black educational condition in America today. In the next chapter, a preliminary attempt is made to adjust Black results to take account of the general advantage for Whites of disproportionate representation in affluent suburbs, higher numbers of highly educated parents and so on.

The effects for Blacks and non-Blacks differ widely from exercise to exercise, as noted in National Assessment Report 1 (pp. 151, 155). In this and the next chapter we discuss individual exercises and types of exercises on which Black respondents perform atypically better or worse than their general level.

Exhibit 2-1 shows the distribution of relative performances by Blacks over all exercises at the four age levels. The median results for Blacks are consistently below national results, by 14.5%, 15.0%, 11.8%, and 15.8% at ages 9, 13, 17, and young adults (26-35). For individual exercises, the spread around these medians is considerable, however, as the exhibit shows. The smaller median deficit at age 17 than at the other three

Exhibit 2-1

Distributions of Relative Performances of Blacks
for all Science Exercises at Four Ages



	9	13	17	A
No. of Exercises	145	122	124	119
Median	-14.5%	-15.0%	-11.8%	-15.8%

ages is difficult to interpret. In any case, it seems safe to say that there is no systematic decline in relative Black performance with increasing age. (This conclusion also applies if attention is focused solely on exercises administered at more than one age level.)

Median relative performances by Blacks on exercises for each science objective are shown in exhibit 2-2. Objectives 1 and 2 covered different forms of science achievement with sizeable numbers of exercises. Objectives 3 and 4 touched upon attitudes and orientations toward science and scientists, employing rather few exercises. Comparing objective 1 (know the fundamental facts of science) with objective 2 (possess the abilities and skills to engage in the processes of science) we note that at all four ages the Black disadvantage is consistently less for objective 1,* by amounts of 2.2%, 3.7%, 8.7%, and 3.0%. That is, Black respondents at all assessed age levels tend to perform relatively better on science fact exercises than on science process exercises.

At ages 13 and 17, there is a tendency for the median Black deficit to be rather small (4 to 6%) for the exercises of objective 4 (show appreciation of scientists and science). At age 17, the deficit is also small (4%) on objective 3 (understand the investigative nature of science). There are relatively few exercises under these two objectives, but the hint is nevertheless clear that whatever their achievement levels, Black teenagers do not necessarily express a lack of appreciation for science.

Median results for physical science vs. biological science exercises are presented in exhibit 2-3. There are no systematic differences in Black performance on these two types of science exercises.

*Region, sex, and size of community groups also are less strongly differentiated on objective 1 than objective 2 exercises. See Report 4, pp. 10, 5, 21.

Exhibit 2-2

Median Relative Performance by Blacks for Exercises Under Each Objective

Science Objective	9	13	17	Adult
1. Facts and Principles	-15.5% (96)*	-15.0% (75)	-10.9% (89)	-14.8% (85)
2. Abilities and Skills	-17.7% (29)	-18.7% (31)	-19.6% (24)	-17.8% (24)
3. Understand Investigative Nature	-12.1% (11)	-18.8% (8)	-4.2% (6)	-23.7% (5)
4. Attitudes and Appreciations	-10.7% (9)	-4.3% (8)	-6.0% (5)	-10.6% (5)

*Numbers of exercises in parentheses

Note: Minus percent figures represent median percentages below national averages.

Exhibit 2-3

Median Relative Performance by Blacks for
Physical and Biological Science Exercises

	9	13	17	Adult
Physical science	-16.0% (78)*	-15.0% (67)	-12.7% (79)	-16.6% (63)
Biological science	-14.2% (48)	-15.4% (39)	-10.8% (32)	-16.7% (44)

*Numbers of exercises in parentheses

Note: Minus percent figures represent median percentages below national averages.

CHAPTER 3

COMPARATIVE PERFORMANCE OF BLACKS, BALANCED, FOR OTHER MEASURED FACTORS

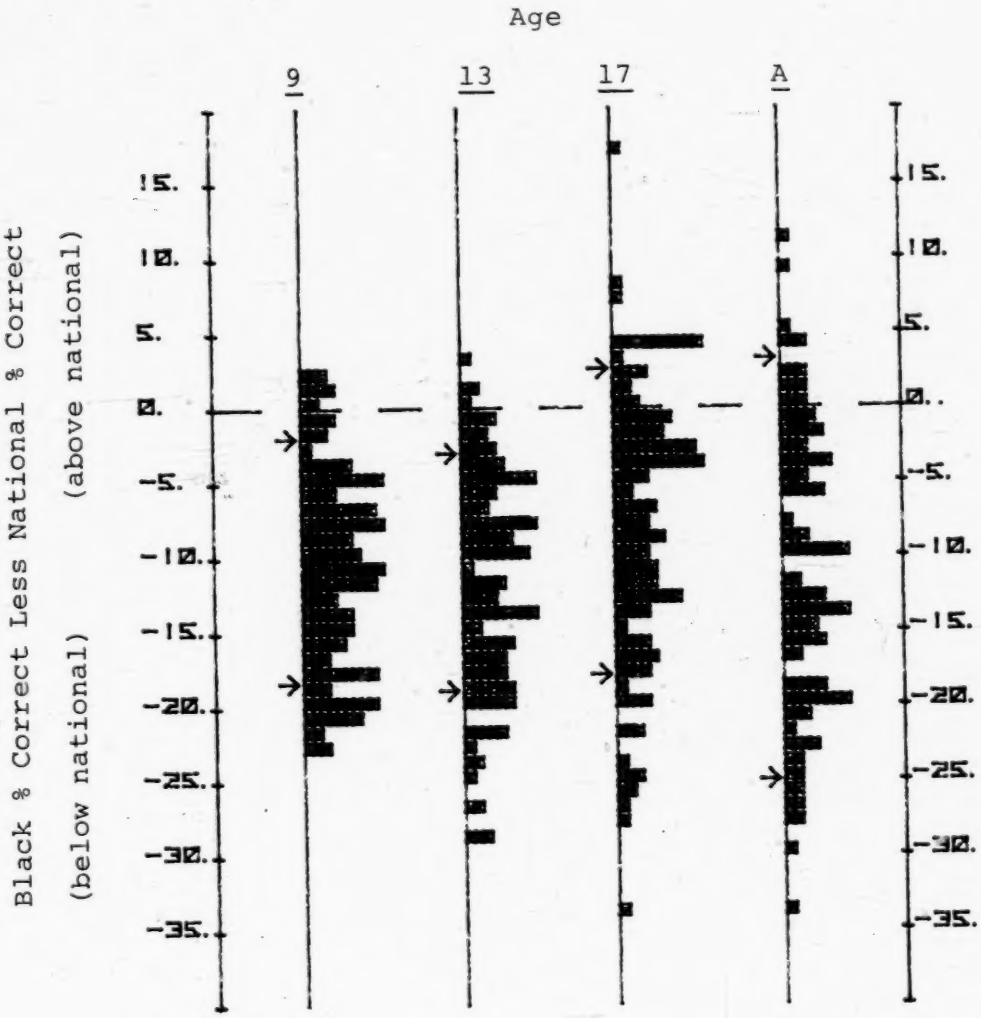
Blacks are subject to many adverse conditions, and it is extremely difficult to identify the factors most responsible for the comparative disadvantage in science performance reported in the previous chapter. We can attempt to adjust our data for some of these factors through the application of "balancing" as explained in chapter 1 and appendix B. Many factors are not available in National Assessment data and we cannot, of course, adjust for these. Thus, the adjustments may well be too small, and therefore the balanced figures cannot be expected to represent the full potential in science of Black children and young adults under appropriate educational stimulation at home and in school.

Blacks are underrepresented in the most educationally advantaged type of community--the affluent suburbs--and are overrepresented in the educationally disadvantaged inner city. (Results for different types of communities, showing the advantages and disadvantages, are presented in chapters 6 and 7.) One might ask how much of the Black disadvantage could be accounted for in terms of this disproportionate representation. Similarly, there are disproportionately few Blacks whose parents have had the benefits of completed high school and post high school education (see chapters 4 and 5), and one might again ask how much the Black disadvantage would be reduced were Black and White levels of parental education balanced. A further factor involving disproportionate representation of Blacks is that of region (see chapter 8).

Exhibit 3-1 shows the distribution of relative performances by Blacks at all four age levels, balanced for disproportionate type of community, parental education, sex and regional representation. (For the conceptual basis of the balancing operation, the interested reader is referred to chapter 1, and for the arithmetic details, to appendix B.) Following the balancing adjustment, the median results for Blacks are still below national results, but by amounts that are substantially less than those which do not take the balancing factors into account. The residual disadvantages are -10.2%, -11.0%, -7.7%, and -10.9% at ages 9, 13, 17, and adult, respectively. (Compared to -14.5%, -15.0%, -11.8%, and -15.8% as noted before in exhibit 2-1.)

Exhibit 3-1

Distributions of Relative Performances of Blacks, Balanced, for all Science Exercises at Four Ages



	9	13	17	A
No. of Exercises	145	122	124	119
Median	-10.2%	-11.0%	-7.7%	-10.9%

The 17-year-old age level retains the smaller disadvantage noted in the previous chapter. Other patterns over exercises, such as the difference between objective 1 and objective 2 exercises remain in force after balancing. There is a general reduction in the Black disadvantage, age by age, and exercise by exercise. Exhibit 3-2 displays the relationship over exercises between unadjusted and balanced results for each age. It is clear in general that on the exercises for which Blacks perform well before balancing, they also perform well after balancing. A similar statement could be made for exercises with relatively poor Black performance.

Atypical Exercises

The procedure for identifying specific exercises on which Black performance (after balancing) is atypically high or atypically low is identical to the procedure used in National Assessment Report 4 for sex, region, and size of community groups. On the distributions of relative performances for all exercises, upper and lower cutoff values are placed (see arrows on exhibit 3-1) in order to select and discuss exercises for which the Black disadvantage disappears, on the one hand, or is much worse than typical, on the other hand. The details of the procedure for selecting cutoffs are given in appendix C.

9-Year-Olds

The exercises for which Blacks perform atypically at age 9 are listed in exhibit 3-3. Exercises labeled "R" have been released to the public (see National Assessment Report 1) and therefore, their content may be discussed in detail. Exercises labeled "U", however, are being retained for reuse in later assessment cycles and therefore are not published at this time. In exhibit 3-3 and throughout this report, no summary phrase in the "content" column is given for these unreleased exercises.

In the upper section of exhibit 3-3 are listed exercises on which Blacks performed atypically well. Most of these exercises proved difficult for the national sample as a whole. Thirteen of the sixteen exercises show national percent correct of 36% or below, with seven of these thirteen having correct percentages below 20%. The 20% figure is what one would anticipate for a multiple-choice exercise answered by guessing at random among five alternatives, and therefore one may characterize national performance on these seven exercises as even worse than what respondents could obtain by guessing. (The situation actually is more complicated, since some percentage of respondents answered each exercise with "I don't know.") Altogether there are eight exercises at age 9 with national percentages below 20%, of which seven appear in exhibit 3-3. An eighth one shows a Black difference of only -3%. These very difficult exercises do not turn out to show substantial differences

Exhibit 3-2

Relationship Between Unadjusted and
Balanced Results for All Exercises

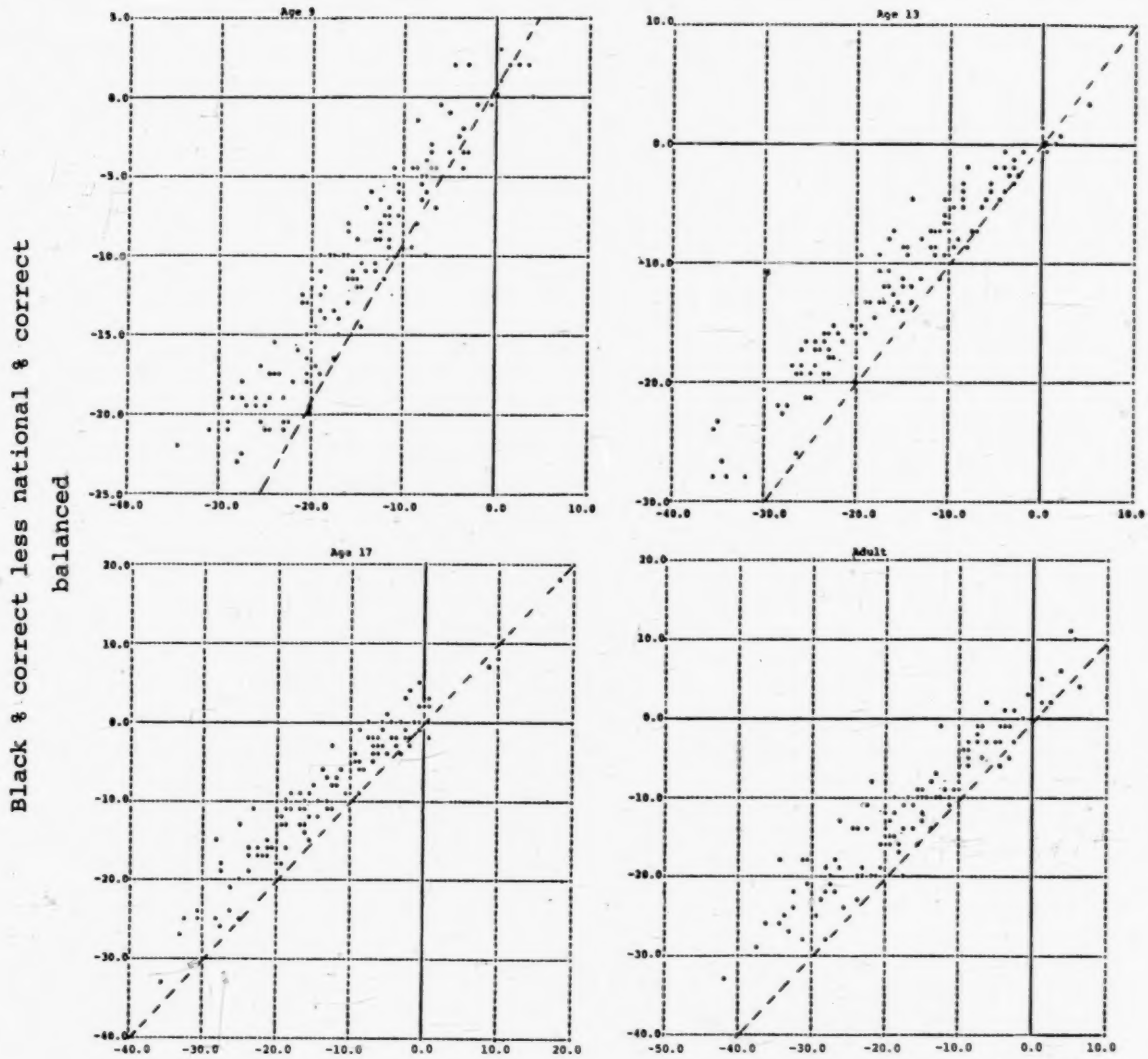


Exhibit 3-3

Exercises Showing Atypical Effects, Balanced for Blacks, Age 9

Exercise #	% Correct Black	% Correct Nat'l	% Difference	Content
U652*	35	33	2	
R141*	9	7	2	Mixing water of 50° and 70° yields water of 60°
U673*	12	11	1	
U650*	37	36	1	
U655*	15	14	1	
U678*	27	26	1	
U657*	12	11	1	
U621*	76	76	0	
U656*	12	12	0	
R140*	14	14	0	Dead plants form coal
R142*	96	96	0	Balancing a beam with one weight
U617	78	78	0	
U677*	33	33	0	
R158*	22	23	-1	What is a scientific theory
U671	39	31	-1	
U672*	18	19	-1	
U632*	47	66	-19	
U665*	51	70	-19	
R147*	49	68	-19	To test an idea, try it
U624*	54	73	-19	
U629*	50	69	-19	
U675*	56	75	-19	
U633*	46	65	-19	
R120*	53	72	-19	Transfer of momentum between objects
U634*	44	63	-19	
R109	66	86	-20	Rocks on Earth's surface are solid
U618*	57	77	-20	
R152	33	53	-20	Because of vaccinations few people get smallpox
R150*	35	55	-20	From chart--sodium is least common in human body
U667*	43	63	-20	
U616*	60	80	-20	
U661	67	87	-20	
U611*	67	87	-20	
U639*	33	54	-21	
R123*	44	66	-22	What scientists learn from fossils
R116*	57	79	-22	Mushrooms do not have green leaves
U668*	41	63	-22	

*Exercises also identified as atypical before balancing.

Note: The --- line separates atypically high from atypically low exercises.

between groups that differ on most other exercises.

The difficult exercises are often tricky and even misleading to respondents at the given age. For example, exercise R141 is as follows: "A pint of water at a temperature of 50° Fahrenheit is mixed with a pint of water at 70° Fahrenheit. The temperature of the water just after mixing will be about: ( )20° F.; ( ) 50° F.; ( ) 60° F.; ( ) 70° F.; ( ) 120° F.; ( ) I don't know." Nine-year-olds are apt to be confused by the references to Fahrenheit, pints and the ° notation. Most (69%) treated the problem as one requiring addition of the two numbers, and responded 120° F. Of the national sample, 12% responded "I don't know," and only 7% responded with 60° F., the correct answer. Such difficult exercises do not tend to differentiate well between different groups of respondents, in particular between Blacks and non-Blacks. About all one can say is that on such exercises, Black and non-Black respondents are about equally often misled.

There are a couple of exercises where other factors may be at work behind the relatively good Black performance level. Exercises U621 and U617, both unreleased, require information about nutrition and volcanoes, respectively. The particular information involved is quite standard in first- and second-grade curricula, and the lack of color disparity is perhaps not too surprising. A third exercise, R142, requires the children to level a balance by hanging a weight appropriately on the lighter arm and reading off the proper numerical indicator on the arm. This was a trial-and-error exercise with actual weights rather than a paper-and-pencil question, and on such a directly experiential task, Black children did as well as White children. In fact, both groups exceeded 96% success.

The result from this last exercise hints that Black performance at the youngest age level is improved for exercises with direct experiential content. Furthermore, the Black disadvantage is great for exercises far removed from daily experience. The lower section of exhibit 3-3 lists the exercises with atypically low Black performance. Four of the unreleased exercises involve relatively remote textbook facts about astronomy, one about geology, one about meterology, two about chemistry, and one each about electricity, human biology and the behavior of animals. Two call for using symbols and graphs, and one refers to the activities of scientists. The released exercises in exhibit 3-3 convey the specific flavor of the kinds of questions on which Black 9-year-olds perform most poorly relative to other 9-year-olds. Exercise R116, with a Black disadvantage of 22%, reads, "Which of these plants does NOT have green leaves: ( )A dandelion; ( )Grass; ( )A mushroom; ( )A willow tree; ( )I don't know." Another exercise (R123), with a disadvantage of 22%, is, "What can scientists learn by studying fossils: ( )Why earthquakes took place; ( )What

animals lived long ago; ( )How far the moon is from Earth; ( )What the weather will be tomorrow; ( )I don't know." This exercise, besides covering a content area quite removed from daily experience, requires that the children understand the vocabulary item "fossils." Other released exercises with a notable vocabulary component are R152, concerning vaccinations, on which the Black deficit is 20%, and R109, which refers to the Earth's "surface" (deficit also 20%).

Two other released exercises listed in exhibit 3-3, R147 and R120, pertain to rather disparate contents: how the respondent might best tell if salt water taffy is really made just by mixing water, salt and sugar (mix those things and see what happens); and what would happen to a wooden block hanging on a string if another such block were released from the left in an arc to hit it (it will swing off to the right). These two exercises both require an abstract attitude toward unusual uses of familiar objects--a detached "What If" approach. If such an attitude is indeed needed to achieve correct responses on these two exercises, it apparently does not come as easily to Black 9-year-old respondents.

13-Year-Olds

Exhibit 3-4 lists the exercises on which Blacks perform atypically at age 13. Of these fifteen exercises on which Blacks perform atypically well, five have national percent correct figures below 20%, and another three between 20 and 40%. Thus there is some indication that difficult, undifferentiating exercises occur at the 13-year-old as well as the 9-year-old level. One or two exercises in this group, however, deserve note as being different from the difficult science achievement questions discussed for 9-year-olds. Released exercise R247, with a Black advantage of 3%, is, "Do you ask questions about why things in nature are the way they are: ( )Often; ( )Sometimes; ( )Never...If so, what questions have you asked most recently?" An "often" questioning attitude is reported by a slightly greater proportion of Black than non-Black children. Unreleased exercise U775 is similar in its import. Whether this reported curiosity is specific to science is not clear.

Several of the exercises on which age 13 Blacks do about as well as non-Blacks have reference to direct experience. Exercise R217 is, "Most of the chemical energy of the gasoline burned in a car is not used to move the car but is changed into: ( )electricity; ( )heat; ( )light; ( )magnetism; ( )sound; ( )I don't know." Answer: heat. Exercises R202 and R203 ask the purpose of toothbrushing, and what kind of clouds bring rain. Two unreleased exercises, U729 and U767, are questions based on everyday experiences about human biology and about scientists, respectively. In R237, the respondent is given a stopwatch and

Exhibit 3-4

Exercises Showing Atypical Effects, Balanced, for Blacks, Age 13

Exercise #	% Correct Black	% Correct Nat'l	% Difference	Content
R247*	10	7	3	Do you often question things in nature
U774*	20	19	1	
U747*	8	8	0	
U741*	34	34	0	
U775*	5	5	0	
R222*	38	38	0	By natural selection, why giraffes have long necks
U769*	66	66	0	
U767*	89	89	0	
R237*	34	35	-1	Time a pendulum's swings
R243*	67	68	-1	Measurements in science: close not identical
U729*	50	51	-1	
U766	9	11	-2	
R217*	46	48	-2	Burning gasoline in a car creates heat
R202*	96	98	-2	Why brush your teeth
R203*	90	92	-2	Thick, dark clouds bring rain
U709*	61	80	-19	
U750*	60	79	-19	
R241	60	79	-19	Mathematics a useful skill in science
R234*	43	62	-19	Balance beam--weight in pan; weight on hook
U754*	44	63	-19	
R205*	66	85	-19	Comfortable temperature: 70°F
R236*	40	60	-20	From chart--determine dog's food ration
R212*	38	59	-21	Movement of air masses predicts weather
U707*	63	84	-21	
R214*	33	54	-21	Counterbalancing unequal weights on beam
R206*	57	78	-21	Why fan a campfire
U717*	41	63	-22	
U760*	19	42	-23	
U758*	26	49	-23	
U759*	23	47	-24	
U727*	27	53	-26	

Exhibit 3-4 (Continued)

Exercise #	% Correct Black	% Correct Nat'l	% Difference	Content
U753*	43	69	-26	
R213*	30	57	-27	Radio waves least upset plant and animal life
R233*	43	70	-27	From chart--compare guinea pig weights
R215*	24	52	-28	Flower seeds develop from ovules

*Exercises also identified as atypical before balancing.

Note: The - - -line separates atypically high from atypically low exercises.

asked to time ten swings of a pendulum.

When we turn to those exercises on which Black 13-year-olds perform especially poorly in the lower section of exhibit 3-4, there is evidence of the same bookish and abstract qualities noted earlier for poor performance of Black 9-year-olds. Among released exercises, there is a vocabulary component for R215, where the correct answer is "ovules"; R205, where the most comfortable "Fahrenheit" temperature is solicited; and R212, where information was asked about predicting weather, with the correct answer, "The movement and characteristics of air masses." Black deficits on these exercises are 28%, 19%, and 21%, respectively. Unreleased exercises U707, U717, and U727, with comparable deficits, involve terms that may also be relatively unfamiliar to Black children.

Another set of exercises with poor Black performance involves the plotting and interpretation of data graphs. On exercise R236, the child is shown a month-by-month chart of the weight of a dog. He is given recommended directions for feeding a dog according to its weight, and must then specify what food ration is appropriate in a given month. On exercise R233, a study of the daily weights of two guinea pigs is described, and the respondent must pick the verbal statement which corresponds accurately with a graphical summary of the results. Unreleased exercises U758 and U760 require the child to use physical apparatus to generate data which is to be graphed, and then to label and interpret the graph. On all four of these exercises, the deficit exceeds 20%. Another two exercises involve anticipation or calculation of the appropriate way to balance a beam. On exercise R214 (19% below national), the child must interpret a sketch of a lever arm and apply the principle that a 2-lb. weight four units from the pivot will balance a 4-lb. weight two units away on the other side of the pivot. On exercise R234 (21% below national), the respondent is given a balance pan and some weights, along with a pictorial representation of this apparatus, and is asked three questions about balance points and weights. On the first question, performance of Black 13-year-olds is atypically poor (19% below national).

The remaining exercises in the lower section of exhibit 3-4 represent an assortment of contents. Exercise R213 poses an ecological question in which the respondent must pick the one of five given actions which will <u>not</u> upset nature's balance, the correct choice being the broadcasting of radio waves. Exercise R206 inquires why fanning helps campfires, and R241 asks, "Which of the following is most useful in scientific research: ( )music; ( )magic; ( )marketing; ( )mathematics; ( )manufacturing." The unreleased exercises not thus far discussed include U709, which deals with astronomy; U754, posing a hypothetical measurement problem; U750 and U753, exploring the difference between a "fact" and an "opinion"; and U759, which

involves a rough numerical estimation.

In general, Black 13-year-olds do most poorly relative to the national sample on exercises involving either unfamiliar terms or remote content materials for which the correct approach involves the detached indirection characteristic of "scientific method."

17-Year-Olds

At the 17-year-old level, there is a reappearance of the same factors accounting for atypically good and atypically poor performances among Blacks at other age levels (exhibit 3-5). In the upper group of exercises, we find a few difficult, undifferentiating exercises (U835, R332, U843). Unreleased exercise U841 is also quite difficult, but appears to differentiate groups in that Black respondents perform about 17% better than national average, after balancing (and also before balancing). Since this is by far the greatest Black advantage on any science exercise in National Assessment, one would like to be able to point to some special content factor involved in this exercise. Unfortunately, it is likely that fortuitous features of the format are responsible for the unique characteristics of this exercise. Several graphical alternatives are offered as completions for a question on a physical equation. The exercise is of such difficulty that respondents probably chose among the graphs on the basis of their superficial appearances.

Exercise R322 is also a tricky one. The correct alternative is the one which completes the following seemingly paradoxical sentence: "If a person who is a light eater has a tendency to be overweight, it is most likely due to highly efficient utilization of food by the body." We do not know what fraction of the national 48% correct is due to lucky misunderstanding, such as reading "inefficient" for "efficient" and thinking this to lead to overweight. Therefore, any interpretation of the Black advantage of 8% is hazardous.

Three exercises of interest yield very slight Black advantages after balancing, but do not exceed the upper cutoff and are therefore not shown in exhibit 3-5. One of these is released exercise R350. It reads, "Whenever scientists carefully measure any quantity many times, they expect that: ( )all of the measurements will be exactly the same; ( )only two of the measurements will be exactly the same; ( )all but one of the measurements will be exactly the same; ( )most of the measurements will be close but not exactly the same; ( )I don't know." The balanced proportion of Black 17-year-olds choosing the correct and eminently sensible answer (most will be close but not exactly the same) was 2.7% above the national average. An unreleased question (U807) about physical principles in home appliances yields a balanced Black advantage of 1.6%, and a released exercise (R314) about why giraffes evolved long necks, a balanced Black advantage of 1.5%. The latter is the same

Exhibit 3-5

Exercises Showing Atypical Effects, Balanced, for Blacks, Age 17

Exercise #	% Correct Black	% Correct Nat'l	% Difference	Content
U341*	36	19	17	
R322*	56	48	8	Efficient use of food can cause overweight
U835*	33	26	7	
R332*	24	20	4	How scientists determine rock age
U843*	18	15	3	
U856*	42	60	-18	
U855*	43	62	-19	
U813*	48	67	-19	
U811*	52	71	-19	
R312*	40	59	-19	Unaided eye detects certain wavelengths of light
U809*	51	72	-21	
U816*	37	60	-23	
R316*	29	53	-24	Adrenalin is a stimulant to the heart
R309*	41	65	-24	Who proposed natural selection in evolution
R305*	52	76	-24	Movement of air masses predicts weather
R344*	30	55	-25	Time a pendulum's swings
R340*	54	79	-25	Which weight experiment gives strongest evidence
R341*	49	74	-25	Balance beam--weight in pan; weight on hook
U820*	29	56	-27	
U852*	40	73	-33	

*Exercises also identified as atypical before balancing.

Note: The- - -line separates atypically high from atypically low exercises.

exercise as R222 for 13-year-olds, on which the balanced Black advantage was 0%.

In the lower group of exercises (exhibit 3-5), vocabulary factors again account for some of the results. Released exercise R316 requires the knowledge that "adrenalin stimulates the heart," and unreleased exercises U809 and U820 also use unfamiliar words involving aspects of body chemistry. Exercise R309 asks for the association of Darwin's name with the idea of natural selection in a theory of evolution. Exercise R305 is the same question as R212, about "movement and characteristics of air masses," on which Black 13-year-olds also showed an atypically great deficit.

Other exercises replicating poor 13-year-old results are: U856, which like U758 required a graph of data generated by the respondent from a physical apparatus; and R341, which like R234, gave the respondent a balance pan, weights and pictorial instructions and asked how to balance a weighted pan. A further question with the same apparatus is unreleased exercise U852, with a 17-year-old Black balanced deficit of 33%. Clearly, Black 17-year-olds experienced some difficulty with laboratory exercises (although the number of 17-year-old Black respondents exposed to each such exercise was small, about 80, and therefore the percentage results are statistically unstable). Another laboratory exercise giving an atypically large deficit is R344, involving the timing of ten swings of a pendulum. This particular exercise showed no Black disadvantage in its age 13 form (R243). Comparing the percentages of correct responses on the pendulum exercise for the two ages in exhibits 3-4 and 3-5, it appears that there was no Black improvement from ages 13 to 17, but a sizable national improvement (about 20%). It is not clear whether this result indicates that the progress of Black teenagers suddenly stops on certain laboratory science tasks, or whether there is some fortuitous peculiarity in the administration of this particular exercise. Exercise R340 presents hypothetical experiments involving the measured weights of two objects, with four observations on each weight in each experiment. On this exercise, there is a Black deficit of 25%.

The other five exercises in exhibit 3-5 include R312, a released exercise comparing different forms of electromagnetic radiation, with the answer that only "certain wavelengths of light" can be detected with unaided human eyes. The unreleased exercises (U855, U811, U813, and U816) cover various topics in electricity, the mechanics of springs, properties of light, and the concept of a hypothesis.

Adults

At the adult level, exhibit 3-6, six exercises show

Exhibit 3-6

Exercises Showing Atypical Effects, Balanced, for Blacks, Young Adults

Exercise #	% Correct Black	% Correct Nat'l	% Difference	Content
U968*	56	45	11	
R433*	24	15	9	How scientists determine rock age
U948*	14	9	5	
R410*	66	62	4	Current involves movement of electrons
R418*	55	51	4	Speed of falling rock increases
U921*	67	63	4	
R405*	44	70	-26	Secondary result of vasectomy
R406*	43	69	-26	Adrenalin is a stimulant to the heart
U919	37	64	-27	
R403*	57	84	-27	Movement of air masses predicts weather
U957*	25	54	-29	
U956*	23	56	-33	

*Exercises also identified as atypical before balancing.

Note: The- - -line separates atypically high from atypically low exercises.

atypically good Black performance; of these, two (R433 and U948) are so difficult as to be undifferentiating. Of the remaining four, the two released ones are as follows--R410: "An electric current in a copper wire involves mainly the movement of: ( )copper atoms; ( )copper molecules; ( )electrons; ( )neutrons; ( )protons; ( )I don't know." and R418: "A 5-pound rock is dropped from a cliff 500 feet high. The longer the rock falls, the greater is its: ( )acceleration; ( )potential energy; ( )speed; ( )total energy; ( )volume; ( )I don't know." The Black advantages, after balancing, on these two exercises are each 4%. Both have the characteristic that the straightforward answers are correct--"electrons" for the first, and "speed" for the second exercise. Black adults tend slightly less often than non-Black adults to be tempted to choose the fancy incorrect alternatives. The remaining two exercises with atypically good Black performance are both unreleased, U968 and U921. Exercise U968 is an attitude question (objective 4) emphasizing curiosity in everyday matters, and U921 is a question about astronomy verifiable by direct observation.

Adult exercises with atypically poor Black performance include two released questions overlapping with 17-year-old exercises with atypically poor Black performance. R406 concerns adrenalin as a stimulant to the heart, and R403 the importance for weather prediction of the "movement and characteristics of air masses." Two unreleased adult exercises also overlap with previous exercises and yield comparable results. On exercise U956, which repeats U760 and U856 involving the graphing of laboratory data, there is a Black deficit of 33%. The follow-up graphical exercise U957 shows a deficit of 29%; the parallel question at age 13, U758, yielded a deficit of 23%. Unreleased exercise U919 overlaps U813 concerning properties of light, and at both ages 17 and adult there is atypically poor Black performance. The only newly appearing exercise in the lower portion of exhibit 3-6 is R405, with Black adults performing 26% less well than national, after balancing. This exercise concerns the consequences for adult human males of tying off their main sperm ducts in a simple operation. The alternative answers were: "( )The voice will eventually become high pitched; ( )Fatty pads will gradually develop on the hips; ( )Behavior will eventually become more effeminate; ( )The hair will develop in longer strands than usual; ( )None of the above will occur; ( )I don't know." The question as formulated requires the answer "None of the above," and as such is perhaps more an assessment of a non-anxious attitude toward side effects of apparently sensitive medical procedures than a direct probe of the knowledge of the purpose of vasectomy.

Summary

In general, over all age levels of what is probably the most

suggestive theme running through these atypical exercises, we may state the following: Blacks perform best on those science exercises most dependent upon daily experience and common knowledge and poorest on those which involve a detached research attitude toward the objects and phenomena of science. There are several factors in the Black educational, environmental, and cultural situation that might explain such an outcome. It is not possible from a single cycle of National Assessment to choose among the many conceivable sets of explanatory factors. A number of research efforts over a period of years would be needed to begin to resolve these questions. If the science performance of Black youngsters improves steadily in the years ahead, however, the need to explain the deficit on the first National Assessment will recede in importance. We all hope that some of the many current innovations in methods and technology of teaching and in the organization of educational systems will produce substantial educational gains for all children, Black and non-Black. Future National Assessment cycles will show the pattern and extent of any such improvements.

CHAPTER 4

PARENTAL EDUCATION GROUPS

Every respondent to NAEP exercises, at age levels 9, 13, 17, and adult, was asked to indicate the highest year of schooling completed by his mother and his father. In this chapter, we discuss the percentages of correct responses to the science exercises for each of several levels of reported parental education:

Level	Definition
0	Education of parents was not ascertained.
1	Neither mother nor father was educated beyond 8th grade.
2	Either mother or father had some high school, but neither completed high school.
3	Either mother or father completed high school, but neither was trained beyond high school.
4	Either mother or father was educated beyond high school.

It should be stressed that the data available on education of parents (except as noted below for some 9-year-olds) is that reported by the respondent on the "tail-sheet" of the exercise booklet. If the respondents were in error in reporting the schooling of their mothers or fathers, they will be misclassified on parental education.

More often than at other ages, 9-year-olds failed to respond to the questions about education of their parents. In some cases where responses to these questions were omitted, exercise administrators provided the information from school records. In many other cases, the parents' education was not ascertained, and the respondents were classified at level 0 on parental education.

The median number of respondents classified at every level of parental education for each age is shown in exhibit 4-1. (For different boooklets or "packages" of exercises, the actual

Exhibit 4-1

Median Numbers of Respondents Per Exercise
for Each Level of Parental Education

	Level of parental education				
Age	0	1	2	3	4
9	789	125	144	567	787
13	252	109	250	762	1049
17	39	146	347	697	959
Adult	51	293	159	200	189

number of respondents varies somewhat, above and below these median numbers.) It may be seen from exhibit 4-1 that, for many 9-year-olds, the information was not ascertained. Also, it is likely that at age 9, more than at the other ages, respondents made errors in responding concerning the numbers of years of school for their mother or father.

Before presenting any detailed results, it is of interest to consider whether, on typical science exercises, performance differences are related to the reported level of parents' education. Exhibit 4-2 shows graphically the median effect for respondents at each level of parental education at each of the four ages. At each age it is apparent that median performance is below the national median for levels 0 (unascertained), 1 (no high school), and 2 (some high school), rising above the national median for level 4 (some education beyond high school). At level 3 (graduated from high school) median performance is near the national median. On typical science exercises, respondents who report that at least one parent had substantial formal schooling perform better, as a group, than respondents who report less schooling for both parents.

Throughout this chapter, we must remember that respondents classed at a given level of parental education may differ in many ways from those classed at other levels. In particular, the various levels of STOC (size and type of community--see chapter 6), sex, region, and color may not be proportionately represented at each level of parents' education. Effects that are apparently related to parental education, then, in some cases may be more simply explained by differences in STOC or differences in color that are masquerading as differences in education. In chapter 5 we shall return to this matter. For now, we simply present the data by level of parents' education without any adjustment for the possible effects of other variables.

Level 1: Neither Parent Attended High School

Exhibit 4-3 shows the distribution of effects at parents' education level 1 for all science exercises at each age. At each age, the median percent correct is below that for the national sample. The median effect ranges from -7.2% at age 9 to -11.8% at age 13. This tells us that, for the average science exercise, respondents whose parents failed to attend high school obtain correct answers from 7 to 12 percent less often than the national average for each age group.

The arrows in exhibit 4-3 show the "cutoffs" beyond which exercises are considered atypical in their effect (for definition of "cutoff" see appendix C). Some exercises are atypical in showing greater than usual effects of level 1, parents'

Exhibit 4-2

Median Effects for Levels of Parental Education at Four Ages

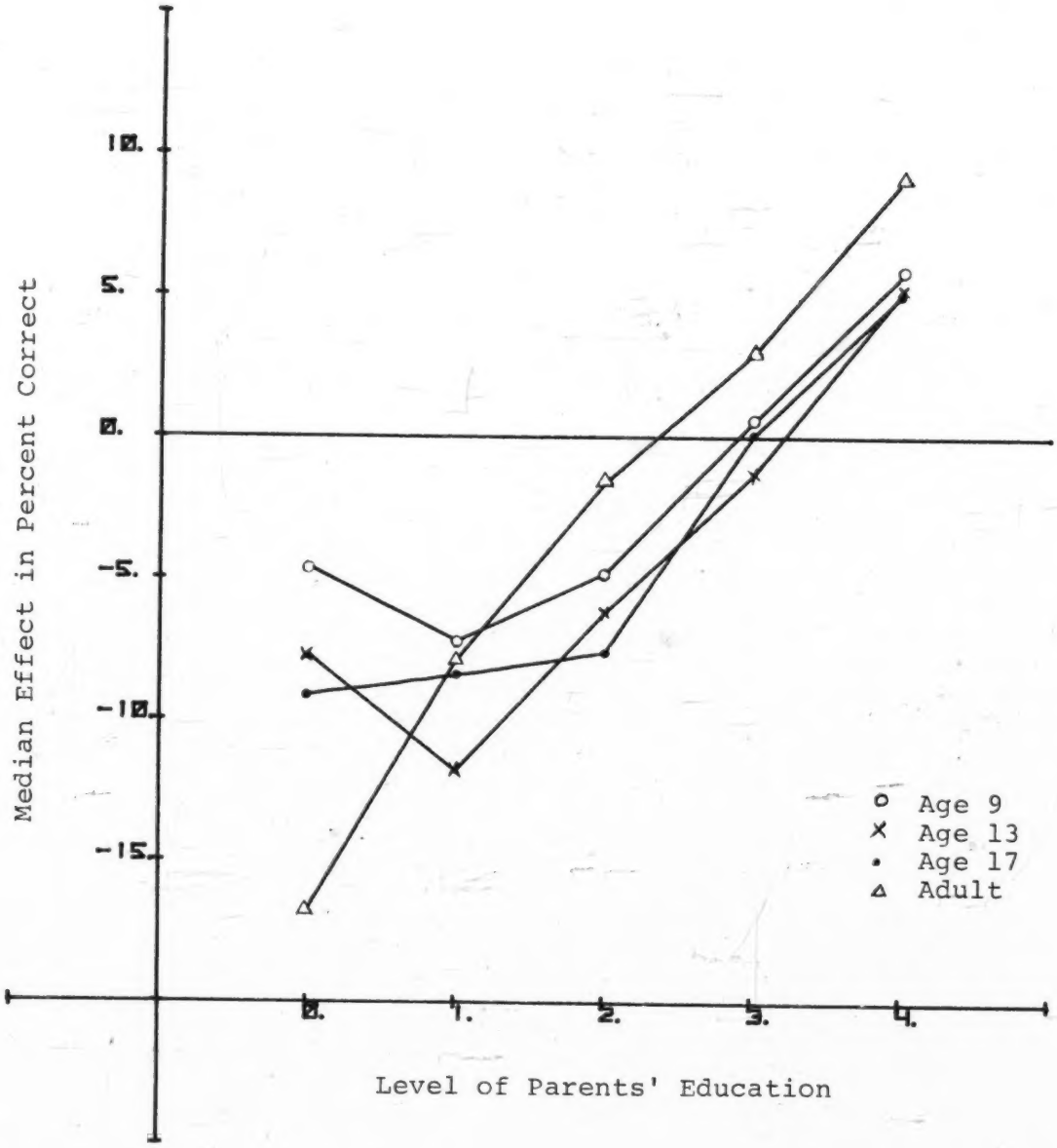
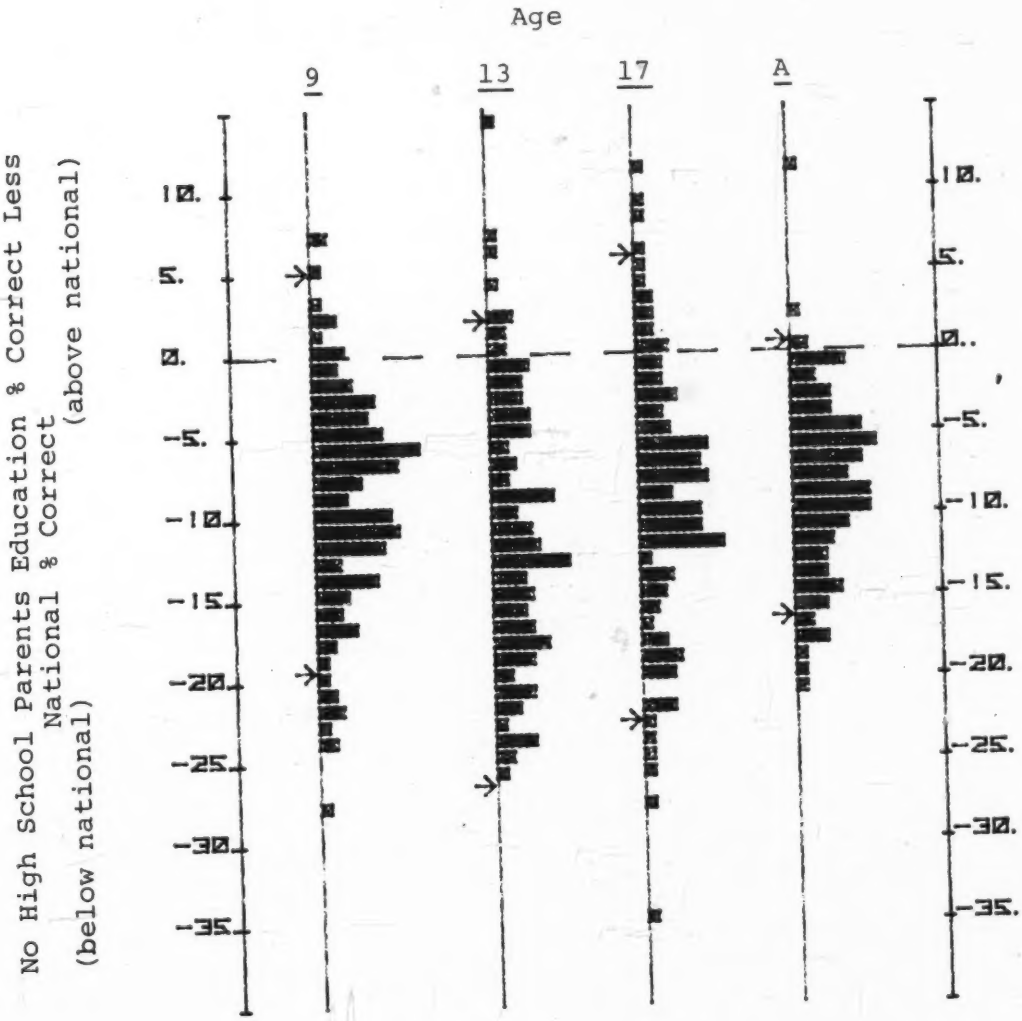


Exhibit 4-3

Distributions of Effects for No High School Parental Education for all Science Exercises at Four Ages



	9	13	17	A
No. of Exercises	145	122	124	119
Median	-7.2%	-11.8%	-8.4%	-7.9%

education. Other exercises are atypical in showing lesser than usual effects, or effects in the direction opposite to the usual direction. For a few science exercises, respondents reporting that neither parent attended high school give correct responses at a rate higher than the national percent correct. The discussion of atypical exercises is contained in chapter 5.

Level 2: At Least One Parent Attended High School

In exhibit 4-4 appear the distributions of effects for level 2 of parental education for all science exercises. At each age, median performance of respondents for whom neither parent completed high school is below the median performance for the nation as a whole, and the majority of all science exercises display the effect. The effect, however, is less marked for adults than for the other three age groups. Exercises that show atypical effects fall in the extremes of the displays of exhibit 4-4, beyond the cutoffs shown by arrows.

Level 3: At Least One Parent Graduated from High School

Exhibit 4-5 shows that, on most exercises, performance of respondents at parents' education level 3 is similar to that for the national sample. At age 13, there is a slight tendency for such respondents to perform less well than the average for all 13-year-olds, while at the adult age, such respondents perform a bit better than the average for all adults. Beyond the arrows in exhibit 4-5 are only a few exercises for which effects of education level 3 are atypical.

Level 4: At Least One Parent Educated Beyond High School

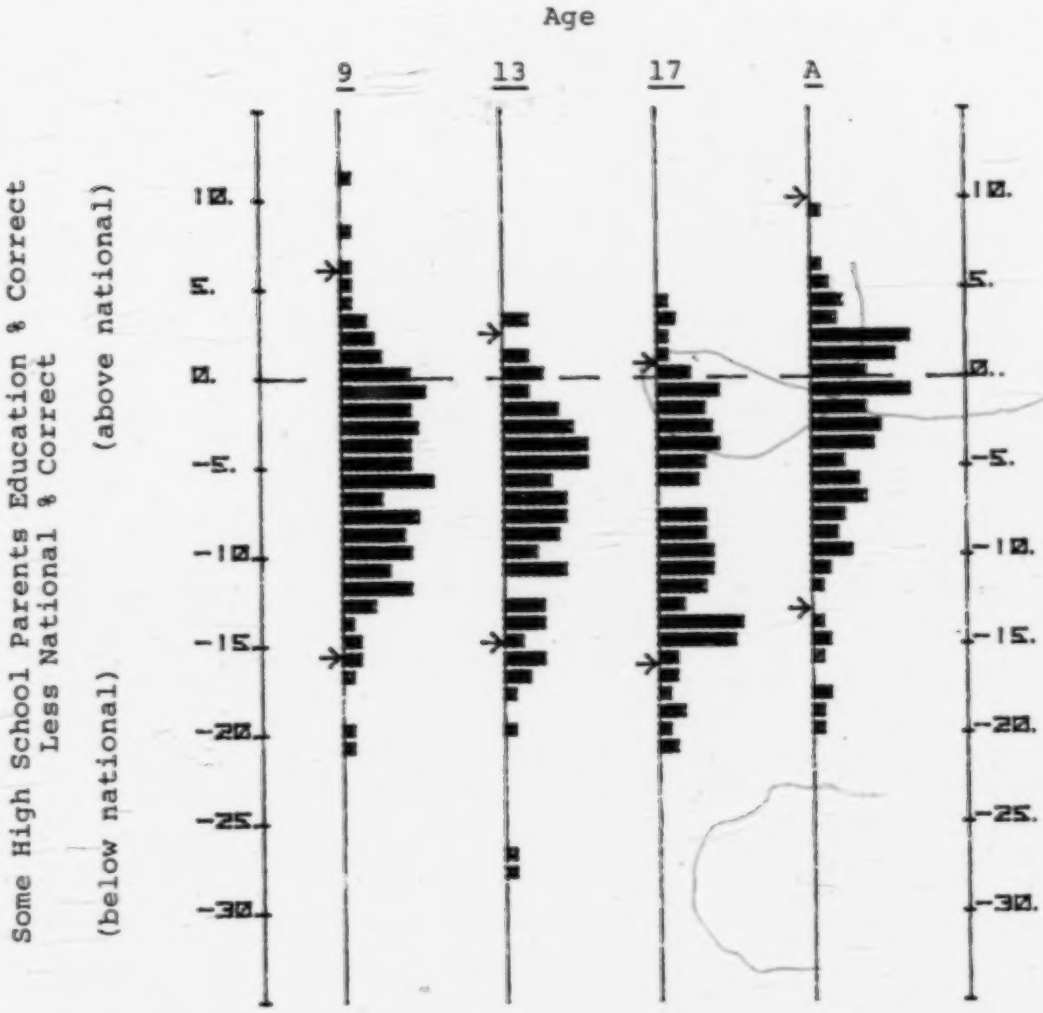
Exhibit 4-6 displays the distribution of effects for respondents at parental education level 4. Median effects range from 5.1% at age 17 to 9.1% for adults. At each age, the body of results attests to the higher performance on science exercises of those respondents with at least one parent with post high school education. A relatively large number of science exercises show atypical level 4 effects. These are the exercises that fall beyond the arrows in exhibit 4-6. Those that remain atypical for balanced results are presented and discussed in chapter 5.

Level 0: Parental Education Unascertained

From exhibit 4-7, it is clear that for respondents who fail to provide the requested information about their parents' education, performance on science exercises tends to be below the national average. The median effect ranges from -4.6% at age 9 to -16.8% for adults. The relatively small deficit at age 9 suggests that all levels of actual parental education may be represented in this group of children who are unable to

Exhibit 4-4

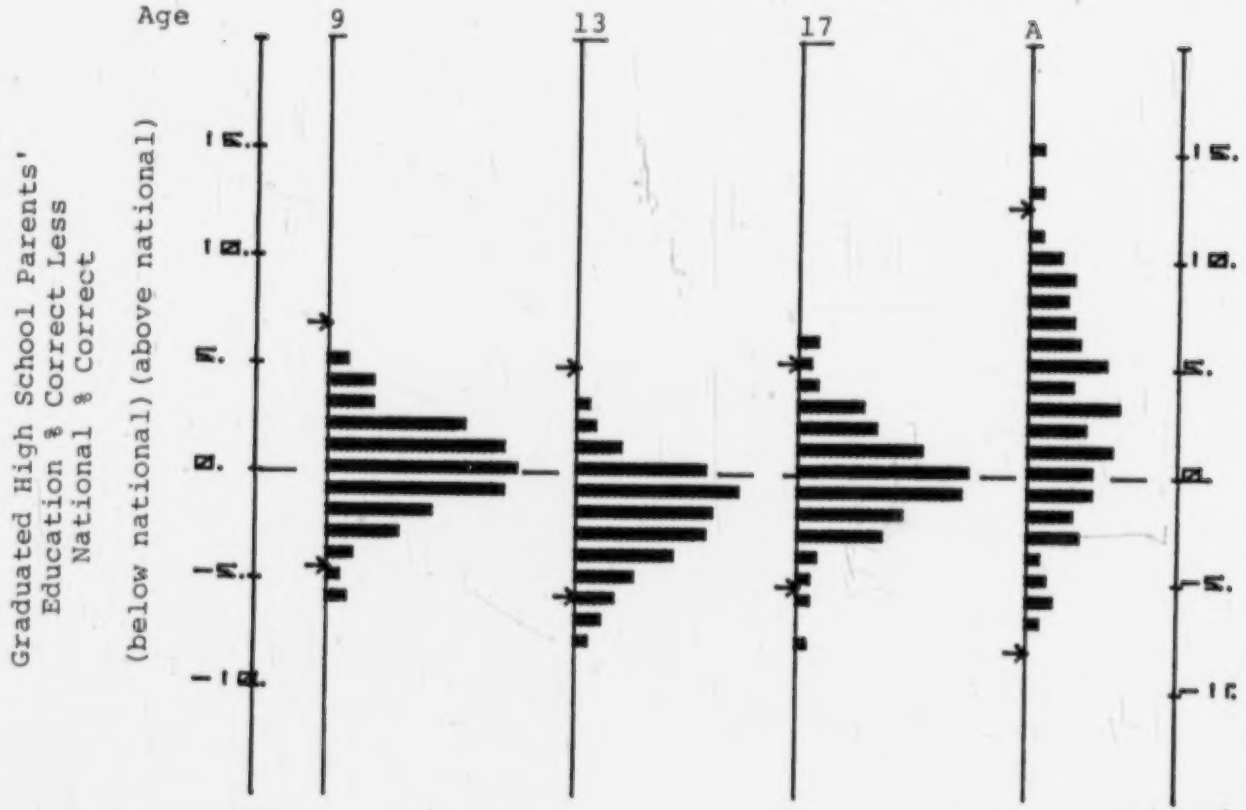
Distributions of Effects for Some High School Parental Education for all Science Exercises at Four Ages



	9	13	17	A
No. of Exercises	145	122	124	119
Median	-4.8%	-6.2%	-7.6%	-1.6%

Exhibit 4-5

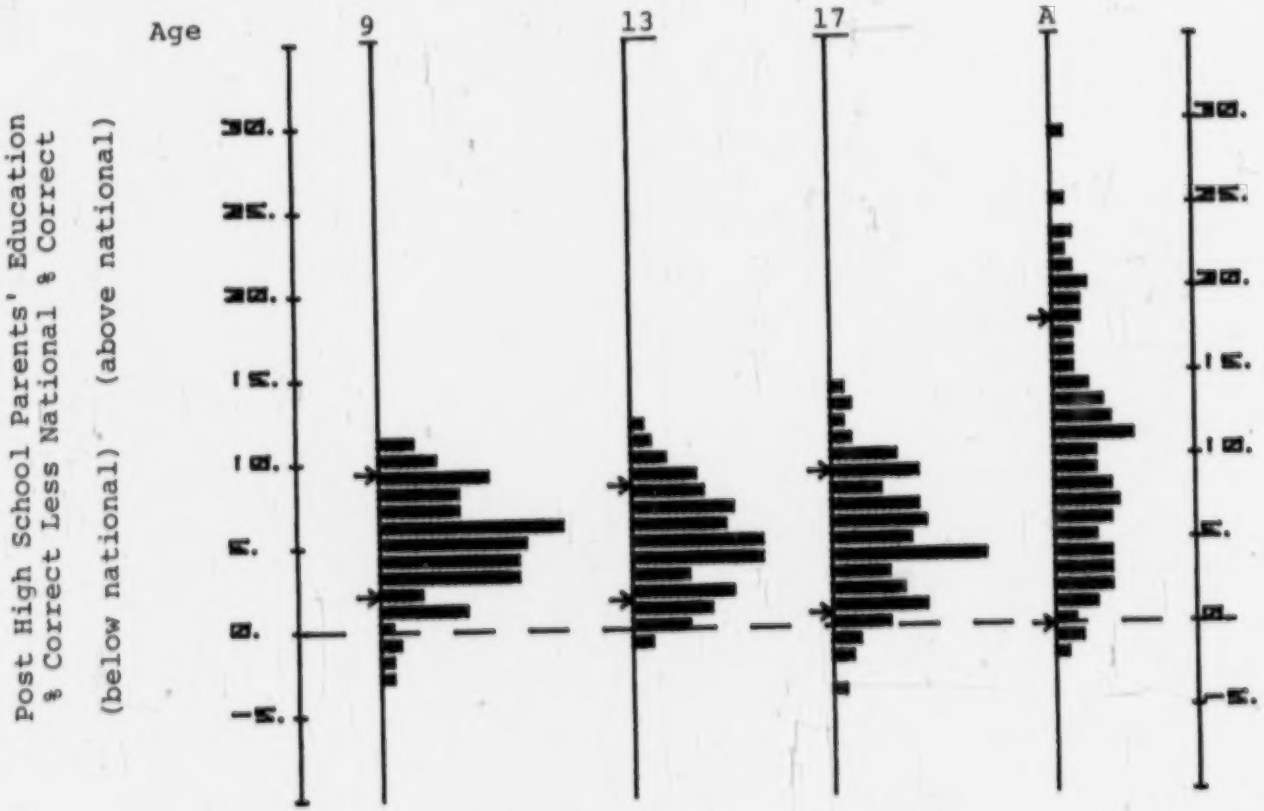
Distributions of Effects for Graduated High School Parental Education for All Science Exercises at Four Ages



No. of Exercises	145	122	124	119
Median	0.6%	-1.3%	0.1%	3.0%

Exhibit 4-6

Distributions of Effects for Post High School Parental Education for All Science Exercises at Four Ages



	9	13	17	A
No. of Exercises	145	122	124	119
Median	5.8%	5.2%	5.1%	9.1%

say how far their parents continued in school. But the story is quite different for adults. Indeed, for adults at level 0, performance is lower than for adults at level 1 (neither parent attended high school).

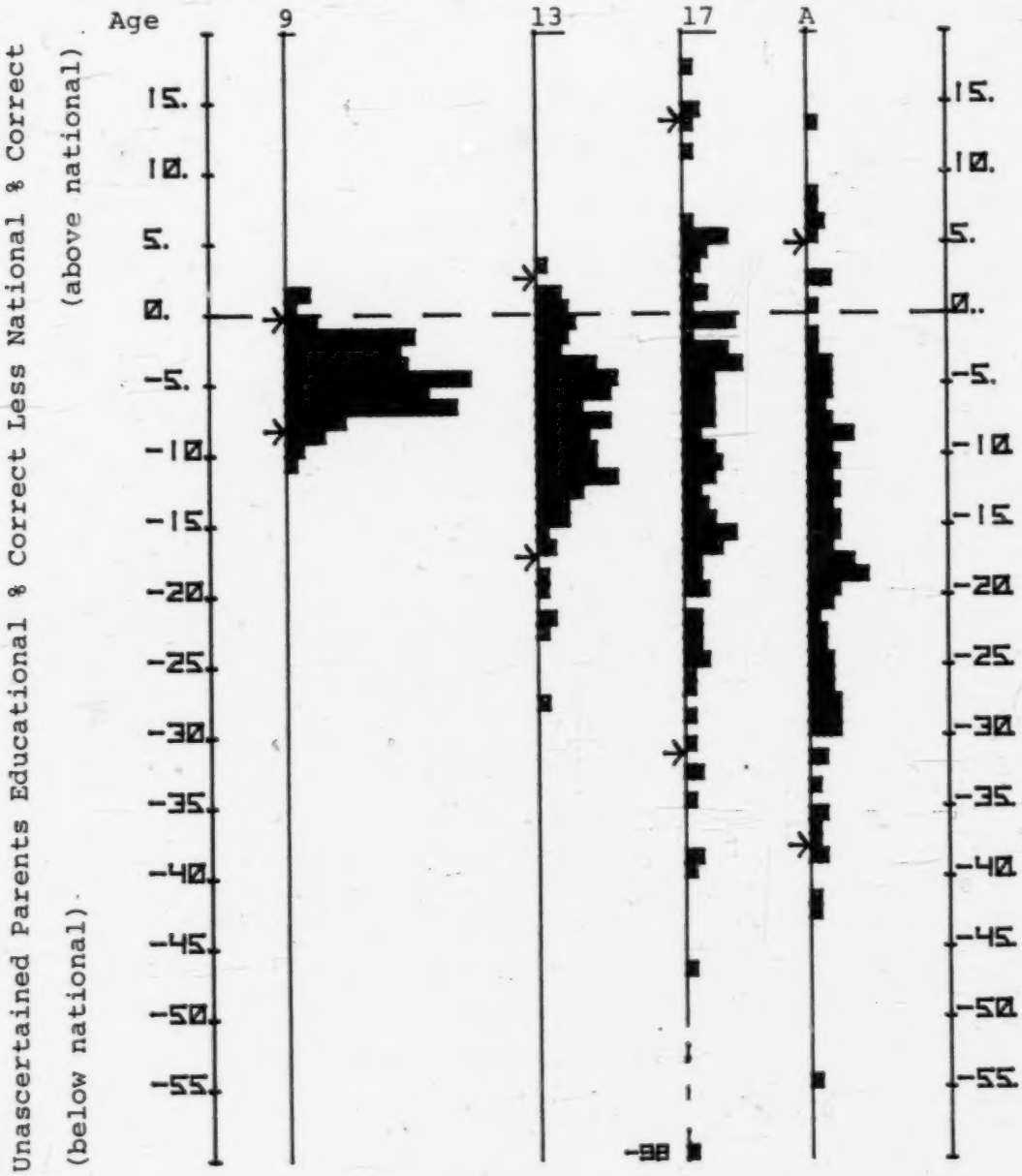
Parental Education Effects for Various Science Objectives and for Physical Science Versus Biological Science

Median relative performance for the various levels of parental education are given separately for the four science objectives in exhibit 4-8. It may be seen that the trend showing better performance with increasing levels of parental education appears to hold separately for each science objective at each of the four ages. In general, the trend is quite similar for the exercises designed to assess the various science objectives. There is some suggestion of smaller effects associated with parental education for objective 4 (attitudes towards science and scientists), although the smaller numbers of exercises administered for this objective prompt us to be somewhat cautious about this finding.

In exhibit 4-9, educational effects are displayed separately for physical science exercises, biological science exercises and unclassified exercises. The trend of effects dependent upon parental education is essentially the same for all three classes of exercises.

Exhibit 4-7

Distributions of Effects for Unascertained Parental Education for All Science Exercises at Four Ages



No. of Exercises	145	122	124	119
Median	-4.6%	-7.7%	-9.1%	-16.8%

Exhibit 4-8

Median Effects Associated With Parental Education Groups for Science Exercises Classified by Objective

		Level of parental education				
Age	Objective*	0	1	2	3	4
9	1	-4.4	-7.3	-4.6	0.7	5.4
	2	-6.2	-6.7	-3.5	0.8	6.9
	3	-4.5	-7.1	-7.3	0.1	6.2
	4	-3.7	-9.0	-5.4	-0.4	4.9
13	1	-7.1	-11.5	-6.2	-1.5	5.4
	2	-10.4	-12.5	-7.5	-1.4	5.7
	3	-11.0	-13.5	-3.3	-1.3	4.9
	4	-4.4	-2.0	-2.6	-0.2	1.4
17	1	-7.7	-8.0	-7.1	0.2	4.9
	2	-12.5	-10.5	-9.7	0.0	7.3
	3	-4.5	-6.3	-3.9	-0.8	4.0
	4	-5.0	-1.7	-6.3	0.1	4.6
Adult	1	-15.6	-8.2	-1.2	2.4	9.2
	2	-18.1	-7.2	-5.2	5.9	6.2
	3	-17.1	-10.6	-5.6	2.0	11.2
	4	-11.2	-5.3	-.4	0.0	5.4

*1 - Facts and principles
2 - Abilities and skills
3 - Understand investigative nature
4 - Attitudes and appreciations

Exhibit 4-9

Median Effects Associated With Parental Education Groups for Physical Science, Biological Science, and Unclassified Exercises

		Level of parental education				
Age	P, B, or U*	0	1	2	3	4
9	P	-4.5	-9.4	-4.4	0.5	6.2
	B	-4.4	-5.9	-3.9	0.8	5.0
	U	-4.7	-7.1	-8.1	-0.3	7.0
13	P	-7.4	-11.1	-6.4	-1.4	5.2
	B	-7.8	-12.2	-6.2	-1.9	5.4
	U	-9.2	-12.3	-3.6	-0.9	3.9
17	P	-7.2	-9.4	-8.4	0.1	5.3
	B	-12.6	-6.5	-7.2	0.7	4.9
	U	-5.0	-7.6	-6.3	-0.1	4.6
Adult	P	-15.6	-7.6	-2.5	3.7	7.6
	B	-17.8	-8.7	-0.8	2.0	10.2
	U	-16.8	-7.0	-2.8	0.3	11.0

*P - Physical Science
B - Biological Science
U - Unclassified Exercises

Standardized Effects for Parental Education

So far, the results for parental education groups have been stated in our customary way--as advantages or deficit compared to national. We have noticed that, as would be expected, parents of school children tend to have gone further in school than parents of young adults. This fact makes it impossible for the advantages and deficits of the various education groups, compared to national performance at their age, to be the same at all ages. Systematic differences between the curves of exhibit 4-2 are inevitable once we know the median number of respondents (exhibit 4-1).

The simplest way to obtain numbers for which this feature is kept from confusing us is to compare the groups using a somewhat different standard. Instead of using the actual national percent of success as a standard, let us use the percent success for a standard population in which:

25 percent of parents have no high school
25 percent of parents have some high school
25 percent of parents graduated high school
25 percent of parents went beyond high school

(This is, incidentally, about what happened for parents of young adults). Results expressed in terms of this new standard we shall call standardized results.

The arithmetic is simple. At age 9, for instance, the performances compared to national were, before standardizing:

grade school	-7.18
some high school	-4.76
graduated high school	.56
beyond high school	5.83

Subtracting the mean of these four values (-1.39) we obtain the following standardized results at age 9:

grade school	-5.8
some high school	-3.4
graduated high school	2.0
beyond high school	7.2

Another way to describe what we are now doing is to say that we are comparing each parental education group with the mean of the four parental education groups.

The result of doing this analysis for all ages is shown in exhibit 4-10. We see that, having eliminated the confusion due to changing degree of parental education, the behavior of each parental education group is almost the same at all ages. The

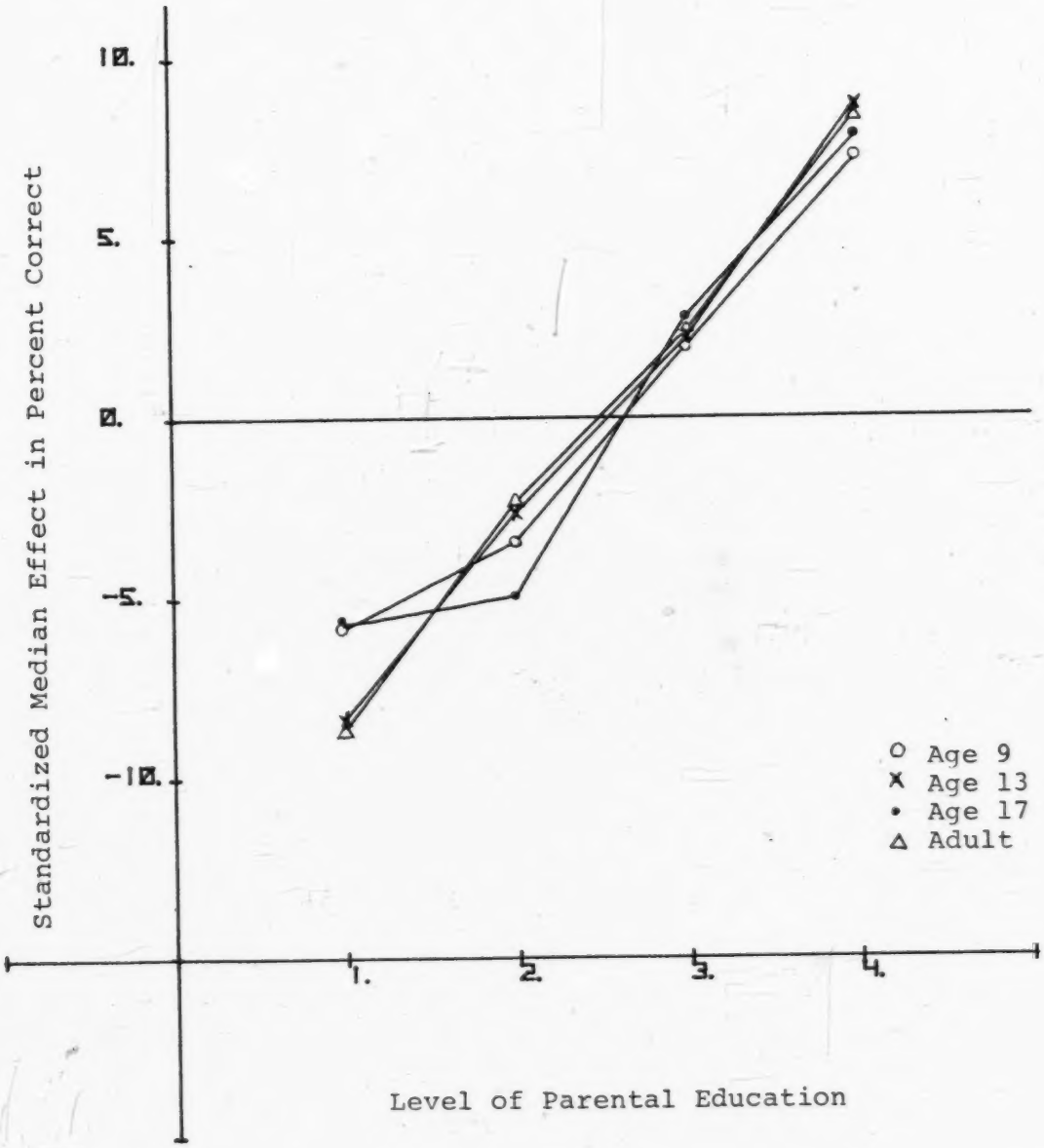
median effects, to the nearest percent, are

grade school	-7%
some high school	-3%
graduated high school	+2%
beyond high school	+8%

and no individual value differs from these medians by as much as 2%.

Exhibit 4-10

Standardized Median Effects for Parental Education at Four Ages



CHAPTER 5

PARENTAL EDUCATION GROUPS: BALANCED RESULTS

The previous chapter presented results on science exercises for parental education groups as they are. Within the group characterized as level 1 on parental education (where neither parent attended high school) we have relatively heavy representation of respondents from the inner city and from rural communities, of Blacks, and of Southeasterners. When we consider balanced effects for level 1 respondents, we are asking how their performance would be expected to compare with national performance if the proportion of inner city and rural respondents, the proportion of Blacks, and proportion of Southeasterners were the same in level 1 of parental education as for the national sample. The balanced results give a clearer impression of differences associated with parental education after removing effects that might be attributed to the classification of respondents by region, type of community or color.

Exhibit 5-1 provides some information about changes in the results for science exercises as a consequence of balancing. We consider the difference between the medians at the highest and lowest levels of parental education for each of the four age groups. After balancing, that difference is reduced by between two and six percentage points. After balancing, the difference between median performance at educational level 4 and at educational level 1 is relatively uniform over ages, ranging between about 9% and 12%. The conclusion is the same if we look at balanced results only for those exercises common to two or more ages. While some exercises show greater or lesser effects of parental education, the difference between median balanced performance of respondents who report that a parent was educated beyond high school and respondents who report that neither parent attended high school is roughly 10% at all age levels.

Let us now turn to a more detailed perusal of results for each level of parental education. In particular, we consider science exercises with effects differing markedly from the overall median effect.

Level 1: Neither Parent Attended High School

For level 1, the balanced median deficit from the national

Exhibit 5-1

Percentage Differences Between Median Effects at Parental Education Levels 4 and 1 for Unadjusted and Balanced Results at Each Age

Age	Unadjusted difference	Balanced difference	Change due to balancing
9	13.0%	9.1%	3.9%
13	17.0%	11.2%	5.8%
17	13.6%	11.6%	2.0%
Adult	17.0%	12.4%	4.6%

percentage correct varies from about 5% (at age 9 and at adult) to about 7.5% (at ages 13 and 17). However, at each age, some science exercises show atypically greater effects and some atypically lesser effects. Data about these atypical exercises appear in exhibit 5-2.

At age 9, two released exercises (R149 and R120) show level 1 deficits of 19% and 22%, respectively. R149 requires scientific reasoning from a pictorial representation. At neither age 13 nor 17 are there released exercises that show an atypically large deficit at level 1. At the adult age level, R407 and R411 show large deficits, between 14% and 15%, whereas the median deficit is about 5%. Both require the mastery of knowledge--i.e., that testes produce sperm, and that flower seeds are produced by ovules.

These exercises, and those unreleased exercises that show atypically large level 1 deficits, seem to fall into two classes: either (1) scientific knowledge is required and relatively unfamiliar words must be recognized (e.g., ovules, testes, photosynthesis) or (2) a cognitive task of translation from graphical or pictorial evidence to a conclusion stated in words is required. Respondents at this lowest parental education seem to have special difficulty with these two kinds of science exercises.

Certain other exercises (R319 and R418) are atypically easy for respondents at level 1 of parental education; indeed, these respondents obtain correct answers more often than the national average. A careful review of the content of these exercises does not lead us to any simple hypothesis concerning why they appear to be unusually easy for respondents whose parents failed to attend high school.

Level 2: At Least One Parent Attended High School

Level 2 respondents tend to perform less well than the national average. The balanced median effects show deficits between 1% (for adults) and 5% (for 17-year-olds).

Inspection of exercises atypical at level 2 (exhibit 5-3) suggest that the same principle may be at work here as at level 1. Exercises requiring reasoning from graphs or pictures tend to be exceptionally difficult for respondents whose parents failed to complete high school, as do exercises that demand special vocabulary knowledge.

Level 3: At Least One Parent Completed High School

For respondents at this level, overall performance is close to the national average, with median balanced effects ranging from about -1% at age 13 to +1% for adults. Inspection of

Exhibit 5-2

Exercises Showing Atypical Effects, Balanced, for Education Level 1

(Neither Parent Attended High School)

Age	Exercise #	% Correct Level 1	% Correct Nat'l	% Difference	Content
9	U621*	84	76	8	
	U648*	19	37	-18	
	U665*	52	70	-18	
	R149*	45	64	-19	From chart--select highest temperature
	R120*	50	72	-22	Transfer of momentum between objects
13	U769*	79	66	13	
	R240*	14	4	10	Find density of wood block using ruler and balance
	U741*	42	34	8	
	No atypically low exercises				
17	R319*	65	54	11	Speed of falling rock increases
	U843*	25	15	10	
	R330*	38	29	9	Egg release is 14 days after menstruation
	U820*	33	56	-23	
	U853*	33	65	-32	
Adult	R418*	62	51	11	What constitutes chemical change
	U960	38	29	9	
	U919*	70	64	6	
	U956	59	56	3	
	U917*	56	71	-14	
	U929*	35	49	-14	
	R407*	54	68	-14	Testes produce sperm
	R411*	48	62	-14	Flower seeds develop from ovules
	U927*	33	50	-17	

*Exercises also identified as atypical before balancing.

Note: Each - - - line separates atypically high from atypically low exercises.

Exhibit 5-3

Exercises Showing Atypical Effects, Balanced, for Education Level 2

(At Least One Parent Attended but Failed to Complete High School)

Age	Exercise #	% Correct Level 2	% Correct Nat'l	% Difference	Content
9	R137*	46	33	12	Mercury is heavier than water
	No atypically low exercises				
13	No atypically high exercises				
	U724*	45	58	-13	
	U723*	45	58	-13	
	R215*	39	52	-13	Flower seeds develop from ovules
	R220*	26	39	-13	Wood floats higher in salt water than fresh
	U742*	15	28	-13	
	U721*	46	60	-14	
	U760*	28	42	-14	
	R233*	55	70	-15	From chart--compare guinea pig weights
	U758*	34	49	-15	
17	R327*	37	33	4	Molecules of air carry sound
	U839*	24	20	4	
	R351	13	27	-14	Kinetic-molecular theory
	U853*	50	65	-15	
	U828*	23	39	-16	
	R309*	49	65	-16	Who proposed natural selection in evolution
	U814*	49	65	-16	
Adult	No atypically high exercises				
	U958	37	50	-13	
	R440*	38	51	-13	Effect of reduced rabbit population on hawks and grass
	U956*	42	56	-14	
	R418*	34	51	-17	Speed of falling rock increases
	U960*	11	29	-18	
	U961*	4	23	-19	

*Exercises also identified as atypical before balancing.

Note: Each - - - line separates atypically high from atypically low exercises.

atypical exercises (exhibit 5-4) shows that there are few exercises at any age that depart markedly from the median performance, and that those few exercises seem not to be closely related, one to the other, in content or form.

Level 4: At Least One Parent Educated Beyond High School

For respondents at level 4, median balanced performance on science exercises is well above the nation at all four ages, about 4% above for ages 9, 13, and 17, and about 7% above for young adults. Many exercises are atypical in showing greater or lesser balanced effects as level 4; these are listed in exhibit 5-5.

Level 4 respondents performed especially well on exercises that demand a deep understanding of the scientific method--exercises concerning testing hypotheses (R147 and several unreleased exercises), reading charts and graphs (R150, R233, and unreleased exercises)--and on a number of exercises that demand knowledge of particular facts and principles. Where respondents at level 1 show a deficit, respondents at level 4 tend to perform unusually well.

Level 0: Parental Education Unascertained

The balanced median effects for parental education level 0 are -4% at age 9, -5% at age 13, -9% at age 17, and -13% for adults. The deficit in performance for respondents who fail to report the educational level of their parents becomes systematically larger with increasing age. It should be noted from exhibit 4-1.that only small numbers of 17-year-olds and adults fall in parental education level 0.

Exhibit 5-6 lists the exercises that show atypical differences from the median effect at each age. A number of exercises that show atypical deficits for level 0 seem to entail the ability to draw scientific inferences (e.g., R153, R131, R147, R235, R342, U853, U857). Others call for specific knowledge about science (U633, U723, R309, R316). These exercises have some resemblance to those that show atypical deficit at level 1. It seems likely that of the respondents who fail to report the level of their parents' education, many have parents with relatively limited numbers of years of schooling.

Standardized Balanced Effects for Parental Education

As in chapter 4, balanced effects may be expressed with reference to a standard population at each age level. Rather than comparing each group (at each age) with the national percent of success as a standard, we shall use as a standard a population for which 25% of parents fall at each of the four educational levels.

The standardized medians for balanced results are shown in exhibit 5-7. The effects are somewhat reduced in size from those displayed in exhibit 4-10, as a consequence of balancing. As for the results of exhibit 4-10, however, effects associated with the four levels of parental education appear to be almost identical, from one age to another.

Exhibit 5-4

Exercises Showing Atypical Effects, Balanced, for Education Level 3

(At Least One Parent Completed High School)

Age	Exercise #	% Correct Level 3	% Correct Nat'l	% Difference	Content
9	none				
13	No atypically high exercises				
	U761*	35	41	-6	
	R219	34	40	-6	Why milk is pasteurized
	U726*	50	56	-6	
	R213*	51	57	-6	Radio waves least upset plant and animal life
17	U814*	71	65	6	
	U860	24	30	-6	
	U856*	53	60	-7	
Adult	U963*	32	20	12	
	R405*	81	70	11	Secondary result of vasectomy
	U930	40	48	-8	

*Exercises also identified as atypical before balancing.

Note: Each - - - line separates atypically high from atypically low exercises.

Exhibit 5-5

Exercises Showing Atypical Effects, Balanced, for Education Level 4

(At Least One Parent Educated Beyond High School)

Age	Exercise #	% Correct Level 4	% Correct Nat'l	% Difference	Content
9	U633*	75	65	10	
	R159*	33	23	10	Writing a poem is not part of science
	R147*	77	68	9	To test an idea, try it
	U626*	80	72	8	
	R150	63	55	8	From chart--sodium is least common in human body
	U634*	71	63	8	
	R152*	61	53	8	Because of vaccinations few people get smallpox
	U646	46	38	8	
	R141*	7	7	0	Mixing water of 50° and 70° yields water of 60°
	U673*	10	11	-1	
	U653*	20	21	-1	
13	U717*	72	63	9	
	R213*	66	57	9	Radio waves least upset plant and animal life
	U754*	72	63	9	
	U773*	45	37	8	
	R233*	78	70	8	From chart--compare guinea pig weights
	U725*	66	58	8	
	R244*	64	56	8	What is a scientific theory
	U772*	92	92	0	
17	U853*	77	65	12	
	R342*	75	66	9	Effect of reduced rabbit population on hawks and grass
	U829*	45	36	9	
	R316*	62	53	9	Adrenalin is a stimulant to the heart
	R343	65	56	9	Differentiate fact from theory

Exhibit 5-5 (Continued)

Age	Exercise #	% Correct Level 4	% Correct Nat'l	% Difference	Content
	R309*	74	65	9	Who proposed natural selection in evolution
	R319*	50	54	-4	Speed of falling rock increases
Adult	U958*	75	50	25	
	R419*	71	49	22	Hot water molecules move faster
	U927*	69	50	19	
	R426*	55	36	19	Molecular speed determines different states of water
	U920*	82	64	18	
	R407*	86	68	18	Testes produce sperm
	R423*	58	41	17	Classifying plants and animals by structure
	U965*	73	56	17	
	R409*	78	62	16	Who proposed natural selection in evolution
	U963	18	20	-2	
	U919	62	64	-2	
	U921	61	63	-2	

*Exercises also identified as atypical before balancing.

Note: Each - - - line separates atypically high from atypically low exercises.

Exhibit 5-6

Exercises Showing Atypical Effects, Balanced, for Education Level 0

(Parental Education Unascertained)

Age	Exercise #	% Correct Level 0	% Correct Nat'l	% Difference	Content
9	U637*	58	57	1	
	U653*	22	21	1	
	R141*	8	7	1	Mixing water of 50° and 70° yields water of 60°
	R153	30	38	-8	Full sink would not explain faulty faucet
	R131*	43	51	-8	Cactuses lose little water through leaves
	U633*	57	65	-8	
	R147*	59	68	-9	To test an idea, try it
13	R208*	79	74	5	Rocket launch possible on moon
	U723*	42	58	-16	
	R235*	45	62	-17	Which weight experiment gives strongest evidence
17	U828*	58	39	19	
	U860*	47	30	17	
	R325	57	41	16	Function of placenta in pregnant woman
	U805	50	82	-32	
	R309*	31	65	-34	Who proposed natural selection in evolution
	R316*	28	53	-35	Adrenalin is a stimulant to the heart
	R342*	30	66	-36	Effect of reduced rabbit population on hawks and grass
	U853*	25	65	-40	
	R344*	15	55	-40	Time a pendulum's swings
	U857*	14	55	-41	
Adult	R445*	26	11	15	Find density of wood block using ruler and balance
	U961*	34	23	11	

Exhibit 5-6 (Continued)

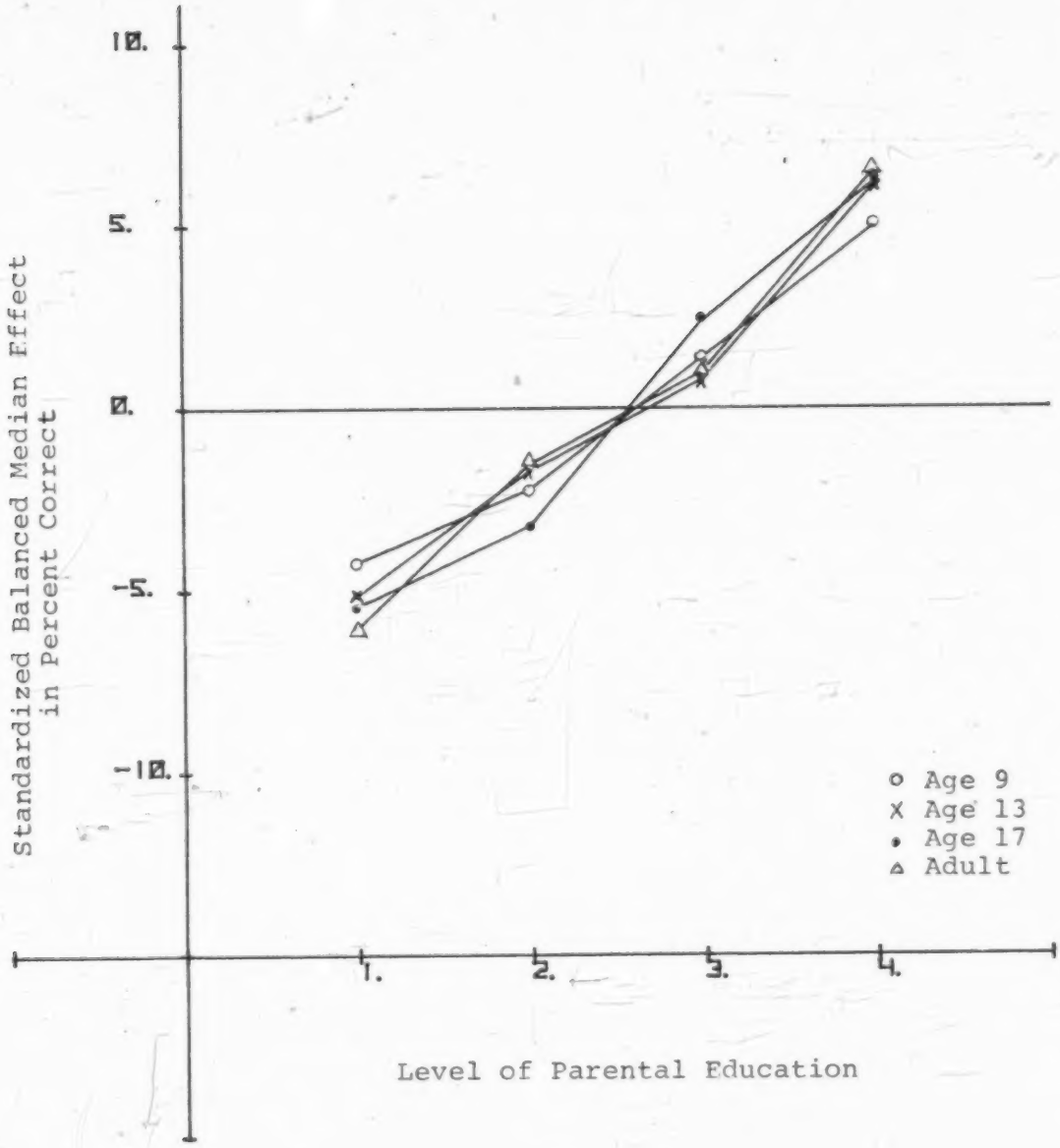
Age	Exercise #	% Correct Level 0	% Correct Nat'l	% Difference	Content
	U957*	9	54	-45	
	U956*	8	56	-48	

*Exercises also identified as atypical before balancing.

Note: Each - - - line separates atypically high from atypically low exercises.

Exhibit 5-7

Standardized Balanced Median Effects for Parental Education at Four Ages



CHAPTER 6

SIZE AND TYPE OF COMMUNITY

In previous reports respondents were divided into four sizes of community (SOC) categories: big city, urban fringe, medium city and smaller places. In this report a more detailed classification* into seven categories is used. This classification of respondents is by school, not by pupil, and is based in part on information from the questionnaire filled out by the principals of participating schools (see appendix B of Report 1).

The first of these new categories is extreme inner city. A school was classified as an extreme inner city school if a high proportion of parents were either not regularly employed or were on welfare, and only a low proportion were professional or managerial. The majority, 85.6%, of the respondents from extreme inner city schools came from the former big city SOC category.

The second new category is extreme affluent suburb. A school was placed in this category if a high proportion of parents were professional or managerial and only a few were factory or farm workers, or not regularly employed. More than half of the respondents from extreme affluent suburb schools came from the urban fringe (53.0%) SOC category, with big city (29.3%) and medium city (16.5%) making up the rest.

The third new category, extreme rural, was defined by schools where a high proportion of parents were farm workers. The percentage of respondents in this category coming from the SOC category of smaller places was 78.1%.

These three extreme categories were defined so that approximately 10% of the total sample fell into each. Thus, 70% of the respondents whose schools did not fall into one of these extreme categories were grouped by their original size of community classification. Thus, a student in the big city classification was classified as rest of big city if he did not fall in one of these new extreme categories. Students in the urban fringe who did not fall into a new extreme category were classified as suburban fringe. Respondents from the smaller places category were classified as small cities if they did not

*See Appendix D for explicit definitions of these new classifications.

fall into one of the new extreme categories. Since the medium city SOC category contributed few, if any, schools to the three new extreme categories, it was left virtually unchanged.

Exhibit 6-1 displays the median effect (difference between the percent correct for the subgroup and the national percent correct) for each of the four original categories and for the new categories by each of the four age groups in the sample. It is clear from these data that the criteria for picking the three extreme types of communities did indeed isolate groups of students whose performance was extreme.

The concentration of the big city deficit in the extreme inner city is particularly striking. This large deficit and to a lesser extent that associated with the extreme rural category clearly identifies those schools where American education faces its greatest challenge. Obviously many of the children in these schools are seriously deficient in their science achievement.

The gap between the extreme affluent suburb and both the extreme inner city and the extreme rural is largest for 9-year-olds (7.2% vs. -15.1% and -6.3%). It decreases for the 13- and 17-year-olds (6.3% vs. -13.7% and -6.1%) and (5.1% vs -7.4% and -3.5%), and then rises sharply for the adults (10.9% vs. -10.2% and -4.7%). Since the adults were not attending school, a different technique was used to classify them into the extreme subcategories. This technique-together with the tendency for the better educated to escape from the extreme inner city and for the most successful to migrate to the extreme affluent suburb-probably underlies the large gap for the adult sample.

Compared with adults, 17-year-olds show markedly smaller deficit in the extreme inner city and a smaller advantage in the extreme affluent suburb. However, this may be due to the fact that there were substantially more very difficult exercises given to the 17-year-old sample than the other age groups (see page 10, chapter 1 of Report 1). Very difficult multiple choice exercises tend to give the guesser an advantage over the respondent who tries to work it out. This hypothesis is supported by the fact that when we analyze the 69 exercises with national percents of at least 40% for 17-year-olds, the national effects are: for extreme inner city -10.4%, for extreme affluent suburb +6.2%, and for extreme rural -6.1%. It may be that the 17-year-old respondents were not as representative of their age group as were those respondents at the other ages.

The median effects for 9-year-olds for physical science exercises, biological science exercises, and the remaining unclassified exercises are shown in exhibit 6-2. This exhibit also displays the median effects for the four science objectives described in Report 1. The median performance of each of the

Exhibit 6-1

Median Effects by Size and Type of Community for All Ages

SOC	STOC	Age 9	13	17	Adult
Big city		(-4.8)	(-4.7)	(-2.6)	(-2.4)
	Extreme inner city	-15.1	-13.7	-7.4	-10.2
	Rest of big city	-2.6	-3.8	0.3	-2.9
Urban fringe		(3.0)	(3.4)	(2.4)	(3.2)
	Extreme affluent suburb	7.2	6.3	5.1	10.9
	Suburban fringe	2.7	2.9	1.0	0.8
Medium city		(0.8)	(1.1)	(0.8)	(0.4)
	Medium city	0.8	1.9	1.2	0.4
Smaller places		(-1.2)	(-1.1)	(-2.1)	(-2.8)
	Extreme rural	-6.3	-6.1	-3.5	-4.7
	Small cities	0.9	0.5	-1.4	-2.7

Note: Figures show difference between the group percent correct and the national percent correct.

Exhibit 6-2

Median Effects for 9-Year-Olds by
Type of Question and Objective

	Physical science	Biological science	Unclassified exer.	Objective* 1	2	3	4
Extreme Inner City	-15.4	-15.7	-13.4	-15.7	-17.1	-11.5	-13.4
Extreme Rural	-6.3	-5.6	-8.2	-6.0	-7.2	-9.4	-6.2
Rest of Big City	-3.1	-2.6	-1.8	-3.1	-0.6	-3.0	0.8
Medium Cities	0.4	1.4	1.0	0.9	0.6	2.3	0.2
Small Cities	0.9	1.0	1.7	0.9	1.2	0.5	-0.1
Suburban Fringe	3.5	2.0	1.7	3.0	2.4	1.8	1.1
Extreme Affluent Suburb	7.3	7.0	9.7	7.2	7.2	8.5	2.6

*1 - Facts and principles
2 - Abilities and skills
3 - Understand investigative nature
4 - Attitudes and appreciations

seven community types is remarkably uniform across the different sorts of exercises. In particular, their relative performance on physical science exercises almost exactly matches their performance on biological science questions. The slight variability observed in the rest of the table is quite likely due to the small number of exercises included in these groups.

Exhibits 6-3, 6-4, and 6-5 show comparable data for 13-year-olds, 17-year-olds, and adults, respectively. The 13-year-olds, like the 9-year-olds, show virtually no change in pattern between physical and biological science or between objective 1, 2, and 3. Objective 4 shows a much smaller range of variation but this is based upon only a few exercises.

In the extreme inner city, 17-year-olds have a greater deficit in physical science than in biological science (-8.5% compared with -5.3%) while those in the extreme rural show just the opposite effects (-3.1% compared with -6.8%). Thus, the extreme inner city students do relatively better in biological science and the extreme rural ones better in physical science.

Like the 9- and 13-year-olds, adults show little difference in their relative performance on physical and biological science exercises except that the extreme inner city respondents showed a slightly smaller deficit in physical science.

Exhibits 6-6 through 6-9 show the distribution of effects for all science exercises across all four ages for the three extreme categories and the medium city category. A comparison of the medians for all seven STOC categories was made earlier in this chapter, and the four distributions selected for exhibits 6-6 through 6-9 were most interesting and indicative of the others.

Exhibit 6-3

Median Effects for 13-Year-Olds by Type of Question and Objective

	Physical science	Biological science	Other science	Objective* 1	2	3	4
Extreme Inner City	-13.4	-14.9	-11.1	-14.1	-14.0	-14.6	-3.5
Extreme Rural	-6.5	-6.5	-4.1	-6.8	-6.1	-1.7	-2.4
Rest of Big City	-3.5	-5.4	-3.0	-4.1	-4.1	-3.0	-2.2
Medium Cities	1.6	3.4	.3	1.7	2.6	0.7	0.9
Small Cities	0.7	-0.1	1.1	0.8	-0.6	2.2	-0.1
Suburban Fringe	3.0	3.2	2.0	2.7	3.3	2.3	1.4
Extreme Affluent Suburb	6.1	7.4	4.2	6.2	7.8	5.4	2.6

*1 - Facts and principles
2 - Abilities and skills
3 - Understand investigative nature
4 - Attitudes and appreciations

Exhibit 6-4

Median Effects for 17-Year-Olds by
Type of Question and Objective

	Physical science	Biological science	Other science	Objective* 1	2	3	4
Extreme Inner City	-8.5	-5.3	-6.6	-8.0	-7.9	-5.4	-4.1
Extreme Rural	-3.1	-6.8	-2.2	-3.3	-4.4	-9.2	.8
Rest of Big City	-0.4	2.0	0.3	0.2	0.0	1.1	1.2
Medium Cities	1.2	1.3	-0.2	1.4	1.3	1.3	-0.6
Small Cities	-0.8	-2.3	-2.4	1.4	-1.6	-1.2	-2.4
Suburban Fringe	0.6	1.3	3.5	0.9	2.3	-0.7	3.3
Extreme Affluent Suburb	5.2	4.8	5.1	4.9	6.1	7.0	4.4

*1 - Facts and principles
2 - Abilities and skills
3 - Understand investigative nature
4 - Attitudes and appreciations

Exhibit 6-5

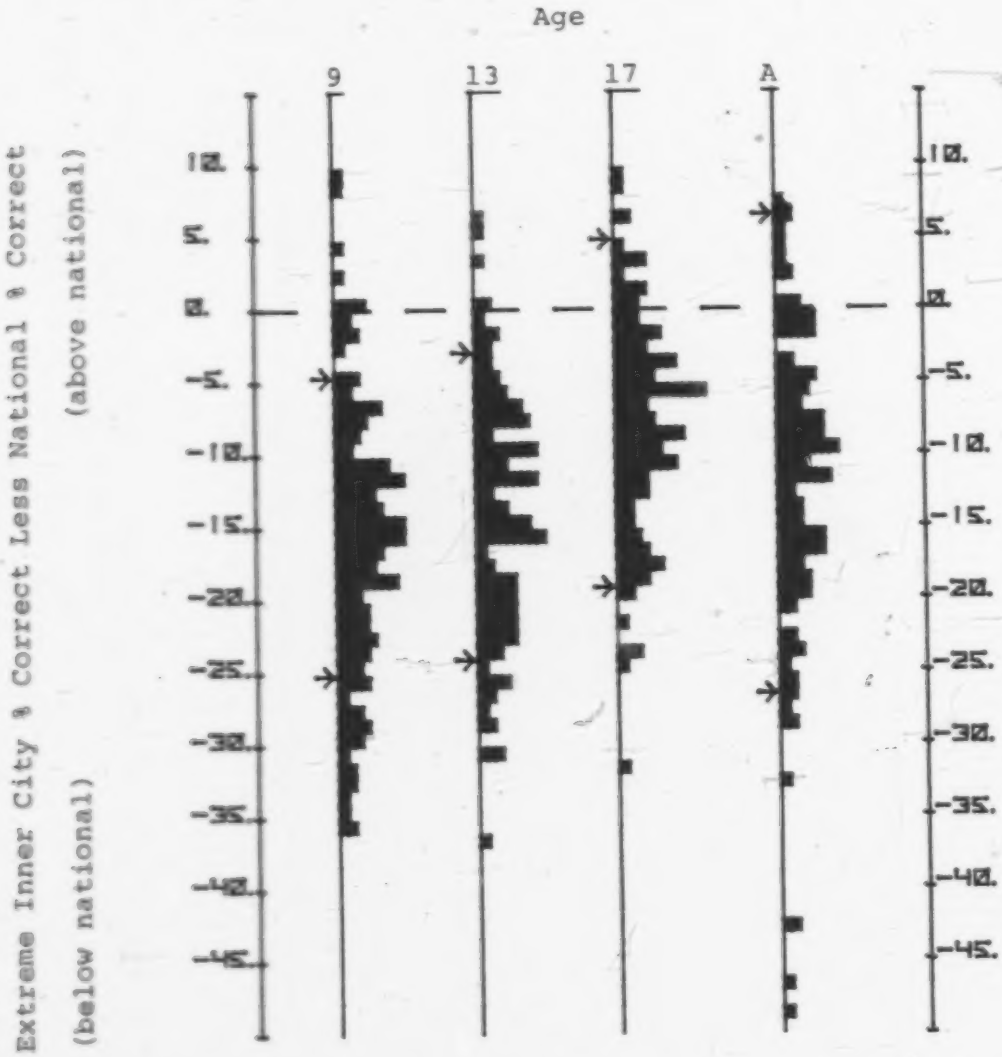
Median Effects for Young Adults by
Type of Question and Objective

	Physical science	Biological science	Other science	Objective* 1	2	3	4
Extreme Inner City	-10.0	-13.1	-8.2	-10.0	-13.5	-8.5	-7.1
Extreme Rural	-4.0	-5.1	-7.3	-9.9	-8.0	-7.6	-8.9
Rest of Big City	-2.9	-3.1	-2.3	-3.5	-0.9	-3.6	-1.0
Medium Cities	1.2	-1.0	0.2	-0.1	2.2	-0.2	0.9
Small Cities	-2.9	-2.2	-4.3	-2.9	-1.8	-7.1	-2.4
Suburban Fringe	0.6	1.4	-2.0	0.3	4.6	-0.6	-1.6
Extreme Affluent Suburb	9.5	10.0	14.1	11.0	6.6	13.0	9.9

*1 - Facts and principles
2 - Abilities and skills
3 - Understand investigative nature
4 - Attitudes and appreciations

Exhibit 6-6

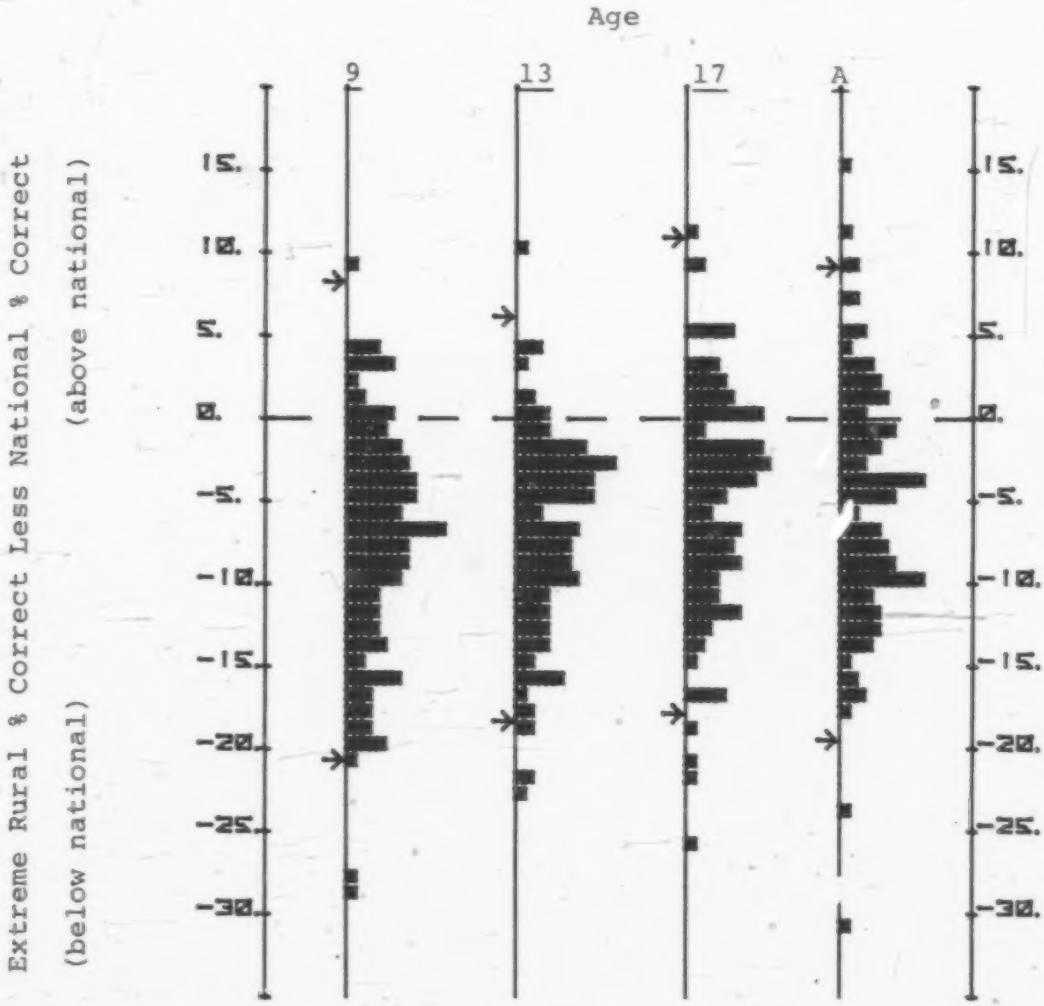
Distributions of Extreme Inner City Effects
for All Science Exercises at Four Ages



	9	13	17	A
No. of Exercises	145	122	124	119
Median	-15.1%	-13.7%	-7.3%	-10.2%

Exhibit 6-7

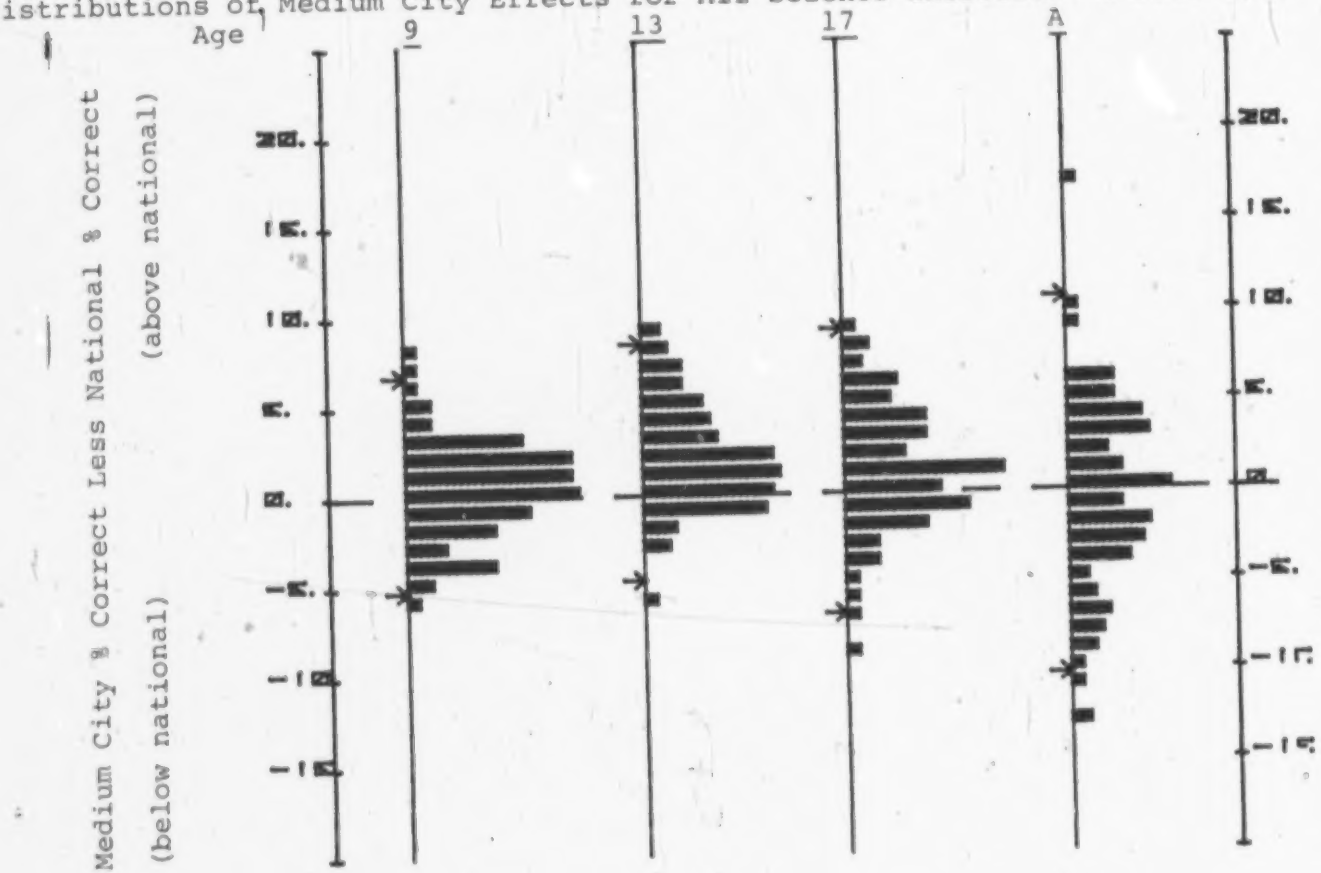
Distributions of Extreme Rural Effects
for All Science Exercises at Four Ages



	9	13	17	A
No. of Exercises	145	122	124	119
Median	-6.3%	-6.1%	-3.5%	-4.7%

Exhibit 6-8

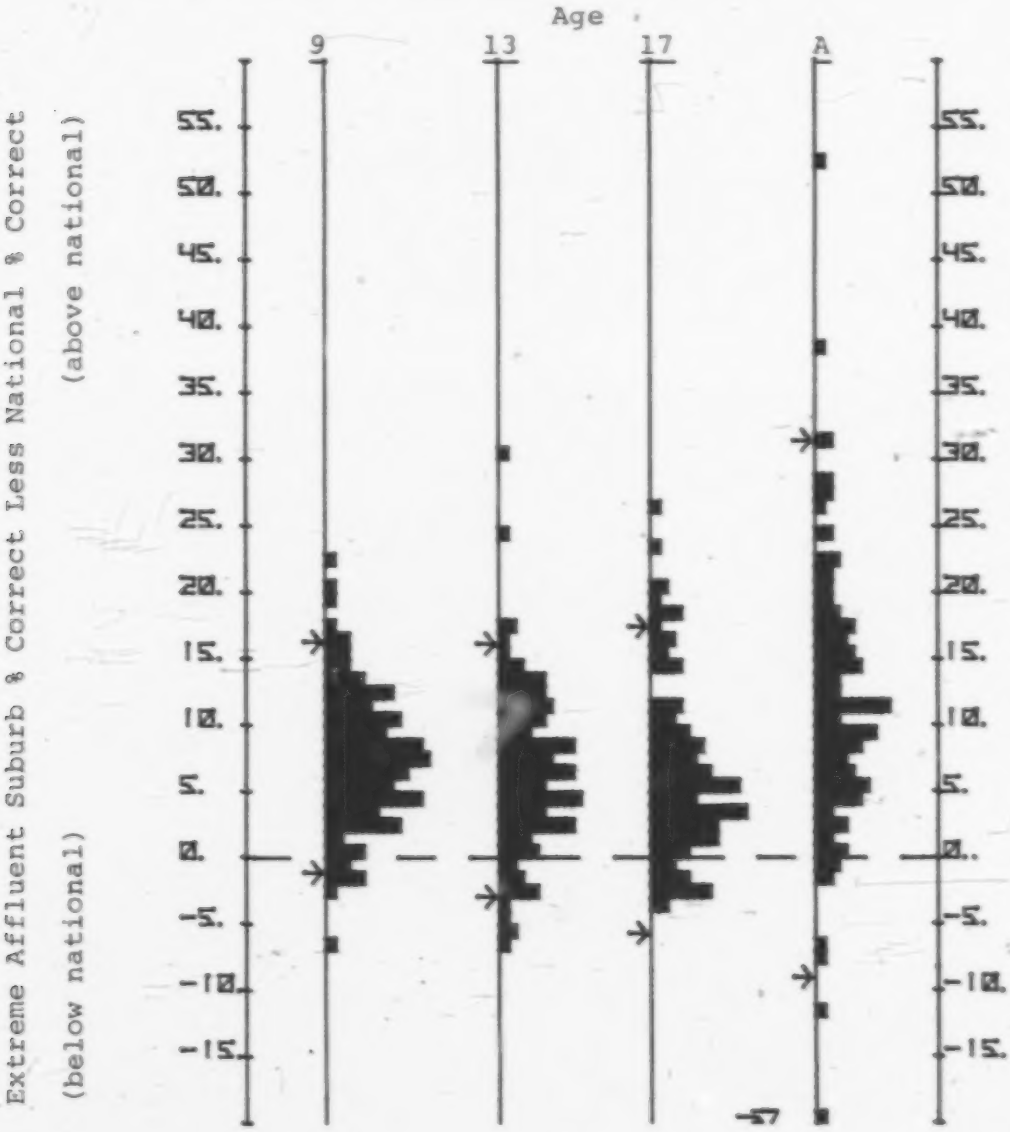
Distributions of Medium City Effects for All Science Exercises at Four Ages



No. of Exercises	145	122	124	119
Median	0.8%	1.9%	1.3%	0.4%

Exhibit 6-9

Distributions of Extreme Affluent Suburb Effects
for All Science Exercises at Four Ages



No. of Exercises	145	122	124	119
Median	7.2%	6.3%	5.1%	10.9%

CHAPTER 7

SIZE AND TYPE OF COMMUNITY GROUPS: BALANCED RESULTS

The median effects associated with the seven types of community after balancing on region, sex, color, and parental education are presented in exhibit 7-1. In general the balanced effects are about half of the unadjusted effects presented in exhibit 6-1 of the preceding chapter. However, there are several exceptions worth noting: the median balanced effects for 13-year-olds, 17-year-olds and adults in the inner city are only about one third as large as the unadjusted medians, and that for extreme rural adults is essentially unchanged after balancing.

The large reduction in the type of community effects produced by balancing indicates that much of the unadjusted effect was due to masquerading by other variables. The especially large reductions for inner city respondents suggest that the problems facing the inner city schools come from the combination of several different sorts of factors, some associated with color, some with parental education, and some with region. The effects remaining after balancing are primarily associated with features of the inner city community. Because a variety of factors contribute to the inner city deficit, there may well be a variety of ways to improve the achievement of the children in these schools.

In a similar way, a number of factors acting in combination are associated with the performance deficit found for extreme rural communities and the performance advantage in the extreme affluent suburb.

Exhibit 7-1 clearly shows the inner city and rural deficit and the affluent suburb advantage for typical science exercises. However, not all science exercises show the same effects, and it may be instructive to consider atypical exercises, for which the size and type of community balanced effects seem large.

Extreme Inner City

Exhibit 7-2 lists atypical exercises for the extreme inner city. At each age, those exercises for which inner city performance is atypically high are difficult exercises where the national percentage correct is no greater than 34% (with only one exception, the apparatus exercise R341 at age 17). The

Exhibit 7-1

Balanced Median Effects by Size and Type of Community for Each Age

	Age			
	9	13	17	Adult
Extreme Inner City	-6.9	-5.5	-2.3	-3.2
Extreme Rural	-3.4	-2.8	-1.6	-4.5
Rest of Big City	-1.5	-2.2	0.4	-1.9
Medium Cities	0.4	0.9	0.6	0.8
Small Cities	0.5	0.7	-0.2	-2.0
Suburban Fringe	0.7	1.0	-0.6	-0.9
Extreme Affluent Suburb	4.4	3.3	2.6	5.6

Exhibit 7-2

Exercises Showing Atypical Effects, Balanced, for Extreme Inner City for All Ages

Age	Exercise #	% Correct EIC†	% Correct Nat'l	% Difference	Content
9	U655*	23	14	9	
	U673*	17	11	6	
	R140*	19	14	5	Dead plants form coal
	R137*	37	33	4	Mercury is heavier than water
	R149*	46	64	-18	From chart--select highest temperature
	R104*	73	91	-18	Iron doesn't readily burn
	U644*	23	41	-18	
	R125*	42	61	-19	Plants get water from soil
	U616*	61	80	-19	
	R146*	55	75	-20	Air leak produces flat tire
	U622*	55	75	-20	
	U665*	49	70	-21	
	U682*	50	72	-22	
	U630*	45	68	-23	
13	U741*	40	34	6	
	U758*	32	49	-17	
	U760*	25	42	-17	
	R209*	46	65	-19	Sedimentary rock in layers
17	R341	85	74	11	Balance beam--weight in pan; weight on hook
	U816*	45	60	-15	
	R314	42	56	-16	By natural selection, why giraffes have long necks
	R306*	45	66	-23	What doesn't increase supply of food
Adult	No atypically high exercises				
	U961	1	23	-22	
	U960	6	29	-23	
	U956*	32	56	-24	
	U957*	26	54	-28	
	R441*	9	48	-39	Time a pendulum's swings
	U955*	28	71	-43	

*Exercises also identified as atypical before balancing.
†Extreme Inner City
Note: Each---line separates atypically high from atypically low exercises.

unusually good performance on these difficult exercises could be due to more frequent guessing on the part of inner city respondents.

Many more exercises show atypically low performance for inner city respondents, especially for age 9 and for adults. Included in this group at age 9 are a number of exercises that assess rather earthy aspects of science (R104, R125, R146, U644, U616, U622, U665, and U630); correct answers to many of these come not from the classroom, but from everyday experiences of children--experiences, however, that are less likely to be encountered by 9-year-olds in an inner city environment. At the adult level, all exercises displaying an atypical deficit are apparatus exercises. Perhaps, when apparatus exercises are presented to adults during an interview in their home, inner city adults tend to be somewhat less cooperative, and thus appear to perform poorly on such exercises.

Extreme Rural

While relatively few exercises are atypical for rural respondents (exhibit 7-3), there is a tendency for those on which performance is atypically high to tap knowledge that is likely to be learned from general experience in rural communities. For example, the unreleased exercises on this list at the adult level ask about: (1) the importance of green plants, (2) the effects of heating water in containers of varying shapes, and (3) the behavior of a wooden block floating on water. In contrast, an atypical rural deficit is seen for several exercises demanding graph reading, and for exercises R406 and R409, requiring considerable mastery of vocabulary as well as detailed formal knowledge.

Extreme Affluent Suburb

In the affluent suburb, more exercises show atypically high than atypically low performance (exhibit 7-8). Both released and unreleased exercises that display unusually large affluent suburb advantages tend to assess relatively abstract facts and principles of science; the affluent suburbs seem to perform best on exercises that depend upon science knowledge learned in the classroom.

Other STOC Groups

For the rest of big city (exhibit 7-4), the medium city (exhibit 7-5), the small city (exhibit 7-6), and the suburban fringe (exhibit 7-7), relatively few exercises display atypical effects. No patterns of exercise content are easily discernible.

Exhibit 7-3

Exercises Showing Atypical Effects, Balanced, for Extreme Rural for All Ages

Age	Exercise #	% Correct ER†	% Correct Nat'l	% Difference	Content
9	R157*	51	39	12	Recognize an untestable statement
	U666	76	66	10	
	U675*	57	75	-18	
	U662*	62	81	-19	
13	U762*	31	22	9	
	No atypically low exercises				
17	No atypically high exercises				
	U853*	49	65	-16	
	U857*	39	55	-16	
Adult	U922*	76	62	14	
	R418	62	51	11	Speed of falling rock increases
	U928*	59	49	10	
	U963	30	20	10	
	R406*	40	69	-19	Adrenalin is a stimulant to the heart
	R409*	34	62	-28	Who proposed natural selection in evolution

*Exercise also identified as atypical before balancing.
†Extreme Rural

Note: Each---line separates atypically high from atypically low exercises.

Exhibit 7-4

Exercises Showing Atypical Effects, Balanced, for Rest of Big City for All Ages

Age	Exercise #	% Correct ICF†	% Correct Nat'l	% Difference	Content
9	No atypically high exercises				
	R157	28	39	-11	Recognize an untestable statement
	U615	68	80	-12	
	U635	49	61	-12	
13	R234*	77	62	15	Balance beam--weight in pan; weight on hook
	U755*	73	59	14	
	U714	79	71	8	
	U751*	60	73	-13	
	R215*	38	52	-14	Flower seeds develop from ovules
17	R343*	68	56	12	Differentiate fact from theory
	U865*	30	20	10	
	No atypically low exercises				
Adult	U962*	47	22	25	
	U964	33	18	15	
	R449*	19	28	-19	Often watch T.V. science programs
	U915*	53	74	-21	

*Exercises also identified as atypical before balancing.
†Inner City Fringe

Note: Each --line separates atypically high from atypically low exercises.

Exhibit 7-5

Exercises Showing Atypical Effects, Balanced, for Medium City for All Ages

Age	Exercise #	% Correct MC†	% Correct Nat'l	% Difference	Content
9	R122*	78	71	7	Honey bees are helpful to man
	U640*	60	53	7	
	No atypically low exercises				
13	U744	35	28	7	
	U737*	36	42	-6	
17	No atypically high exercises				
	R322*	40	48	-8	Efficient use of food can cause overweight
	R327	25	33	-8	Molecules of air carry sound
	U824	36	45	-9	
Adult	U960	47	29	18	
	R441*	64	48	16	Time a pendulum's swings
	U957	67	54	13	
	U956	68	56	12	
	No atypically low exercises				

*Exercise also identified as atypical before balancing.
†Medium City

Note: Each---line separates atypically high from atypically low exercises.

Exhibit 7-6

Exercises Showing Atypical Effects, Balanced, for Small City for All Ages

Age	Exercise #	% Correct SC†	% Correct Nat'l	% Difference	Content
9	U635	68	61	7	
	No atypically low exercises				
13	No atypically high exercises				
	U754*	56	63	-7	
17	No atypically high exercises				
	R345*	29	39	-10	Understand conservation of matter
Adult	No atypically high exercises				
	U957	38	54	-16	
	U963	4	20	-16	

*Exercise also identified as atypical before balancing.
†Small City

Note: Each---line separates atypically high from atypically low exercises.

Exhibit 7-7

Exercises Showing Atypical Effects, Balanced, for Suburban Fringe for All Ages

Age	Exercise #	% Correct SF†	% Correct Nat'l	% Difference	Content
9	R123*	74	66	8	What scientists learn from fossils
	R150*	46	55	-9	From chart--sodium is least common in human body
13	No atypically high exercises				
	U755	53	59	-6	
	R237*	29	35	-6	Time a pendulum's swings
	U762*	14	22	-8	
17	No atypically high exercises				
	R344*	41	55	-14	Time a pendulum's swings
Adult	R441*	62	48	14	Time a pendulum's swings
	U921*	48	63	-15	

*Exercise also identified as atypical before balancing.
†Suburban Fringe

Note: Each---line separates atypically high from atypically low exercises.

Exhibit 7-8

Exercises Showing Atypical Effects, Balanced, for Extreme Affluent Suburb for All Ages

Age	Exercise #	% Correct EAS†	% Correct Nat'l	% Difference	Content
9	U645*	56	40	16	
	R123	81	66	15	What scientists learn from fossils
	R153*	52	38	14	Full sink would not explain faulty faucet
	R128*	68	55	13	Sun is a star
	U639*	67	54	13	
	R130*	66	53	13	Comfortable temperature: 70°F
	U648*	50	37	13	
	U651*	29	34	-5	
	R140*	9	14	-5	Dead plants form coal
13	U760*	69	42	27	
	U758*	68	49	19	
	U755*	51	59	-8	
	R234*	54	62	-8	Balance beam--weight in pan; weight on hook
17	U866*	50	30	20	
	R326*	51	35	16	Salt in water lowers freezing point
	U823*	61	46	15	
	U838*	37	22	15	
	U822*	68	54	14	
	R318*	65	51	14	What constitutes chemical change
	U813*	81	67	14	
	R343	45	56	-11	Differentiate fact from theory
Adult	U962*	63	22	41	
	U956*	90	56	34	
	R441	77	48	29	Time a pendulum's swings
	U957*	81	54	27	
	No atypically low exercises				

*Exercise also identified as atypical before balancing.
†Extreme Affluent Suburb

Note: Each---line separates atypically high from atypically low exercises.

CHAPTER 8

REGIONAL GROUPS: BALANCED RESULTS

In Report 4, the patterns of correct response to the science exercises were examined for consistencies and discrepancies among the nation's regions. In this chapter, we examine the patterns in the regional samples after balancing for the disproportionate representation of four other characteristics--sex, size-and-type of community, education of parents, and color. To what extent can the regional effects noted in Report 4 be considered to grow out of this lack of proportionality? What effects remain after appropriate balancing procedures (described in chapter 1 and in appendix B) have been applied to the regional data?

The median effects at the four ages for the four regions, both the unadjusted and the balanced, are pictured in exhibit 8-1. Thus, the effects of balancing have reduced the range of the regional effects by about one third. In general, the relative order of the medians within ages remains the same after balancing. The exceptions are the reversals of the order of the Northeast and the Central regions at age levels 9, 13, and adult; however, in none of these comparisons were the differences, either before or after balancing, large enough to be statistically reliable. The most striking difference between the unadjusted and the balanced effects is the sharp reduction in the Southeast deficit. Apparently, a substantial part of the deficit observed in the unadjusted data grows out of the fact that the effects of other characteristics are represented in different proportions in the different regional samples. On the other hand, a significant Southeast deficit (minimal for age 13) still remains after balancing. Also remaining is the relatively high median effect for adults in the West.

The contrast between unadjusted and balanced effects presented in exhibit 8-1 involves all the science exercises. In Report 4, the unadjusted effects were also examined in terms of groups of exercises classified according to the four science objectives and according to content, i.e., physical and biological science. The only instance in which the median effects for subgroups of exercises displayed a different picture from that pictured in the medians for all exercises was in the comparison between objective 1 and objective 2 exercises presented in exhibit 3-5 of Report 4. In 11 of the 16 comparisons, the median for objective 2 exercises was more extreme than the median

Exhibit 8-1

Median Effects for the Four Regions at Four Ages Before and After Balancing

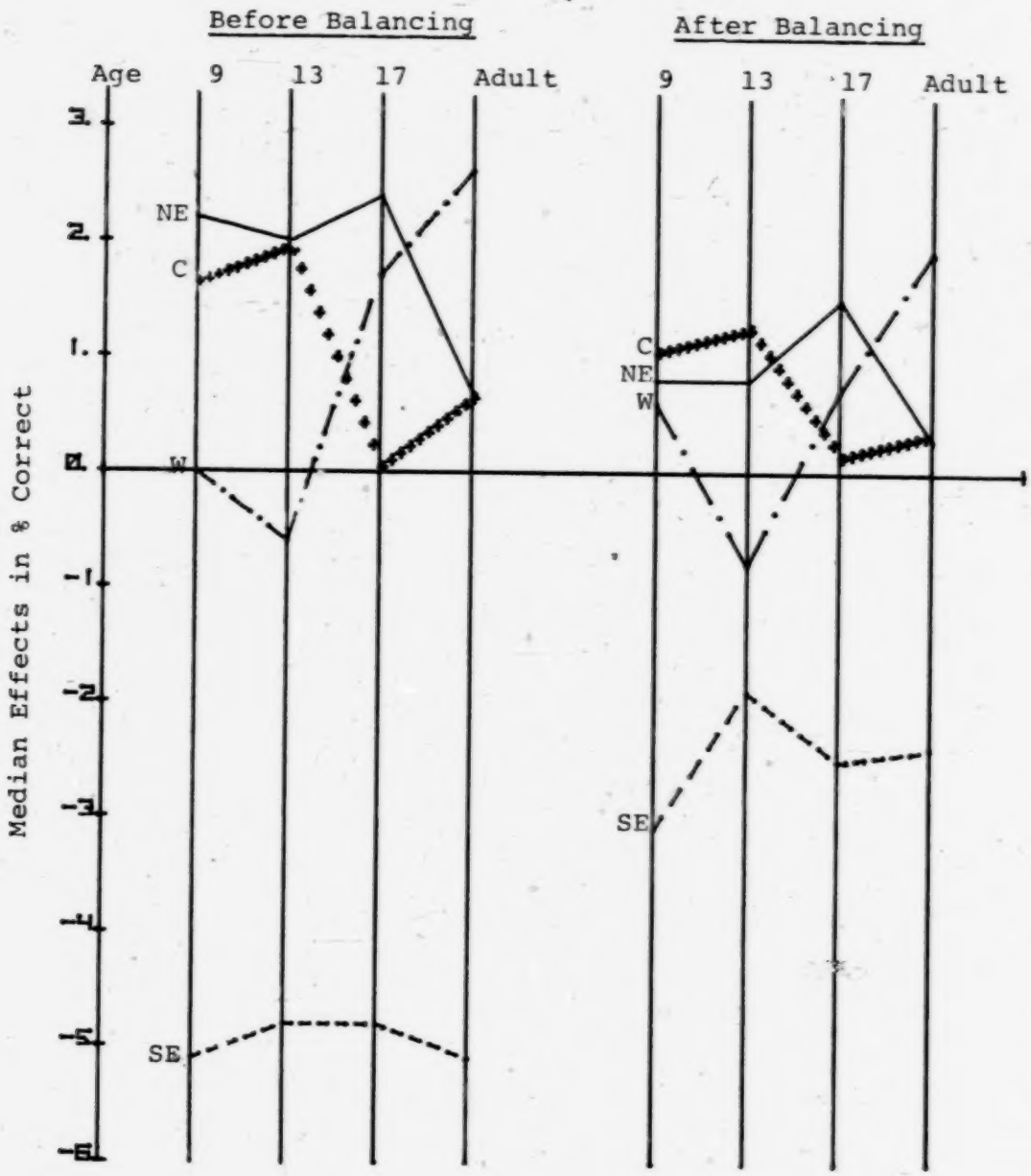


Exhibit 8-2

Median Effects, After Balancing, for All Exercises, Objective 1 Exercises Only, and Objective 2 Exercises Only

(Median Effects, Before Balancing, for All Exercises, in Parentheses)

Group	Age	All exercises	Medians for Obj. 1*	Medians for Obj. 2**	Comparison†
West	Adult	1.9 (2.4)	1.4	2.0	0.6 bigger
Northeast	17	1.5 (2.6)	1.2	1.9	0.7 bigger
Central	13	1.2 (1.9)	1.2	1.3	0.1 bigger
Central	9	1.0 (1.6)	0.7	1.5	0.8 bigger
Northeast	9	0.8 (2.3)	0.5	1.9	1.4 bigger
Northeast	13	0.8 (2.0)	0.4	2.1	1.7 bigger
West	17	0.7 (1.7)	-0.1	1.3	1.4 across zero††
West	9	0.6 (0.0)	1.0	-0.6	1.6 across zero††
Northeast	Adult	0.3 (0.6)	0.6	-0.5	1.1 across zero††
Central	Adult	0.3 (0.7)	0.1	1.6	1.7 bigger
Central	17	0.1 (0.0)	0.2	-0.1	0.3 across zero††
West	13	-0.8 (-0.5)	-0.7	-0.8	0.1 bigger
Southeast	13	-1.8 (-4.7)	-1.2	-4.2	3.0 bigger
Southeast	Adult	-2.4 (-4.9)	-2.2	-2.5	0.3 bigger
Southeast	17	-2.5 (-4.9)	-2.2	-3.1	0.9 bigger
Southeast	9	-3.1 (-5.1)	-3.3	-3.2	0.1 smaller††

*Objective 1 - Facts and principles
**Objective 2 - Abilities and skills

†Objective 2 compared to objective 1

††Exceptions to the rule

for objective 1 exercises. This contrast remains after balancing, as illustrated in exhibit 8-2. However, the absolute differences tend to be smaller, as would be expected as a result of the general reduction in the size of the effects. (The median of the absolute differences is 1.35% for the unadjusted median effects and 0.85% for the balanced median effects.)

The median effects presented in exhibits 8-1 and 8-2 provide one way of viewing the results of balancing. As was true of our study of the unadjusted data, it is also instructive to examine not only the medians but also the distributions from which the medians are derived, to identify exercises falling so far toward the extremes of the distributions as to be considered atypical, and to ask whether or not it is possible to discover any systematic distinctions between exercises atypical above and those atypically below the median effects.

In the sections which follow, we report the results of these analyses, taking the regions in order Northeast, Southeast, Central, and West and then comparing the balanced data reported here with the unadjusted data in Report 4.

Northeast

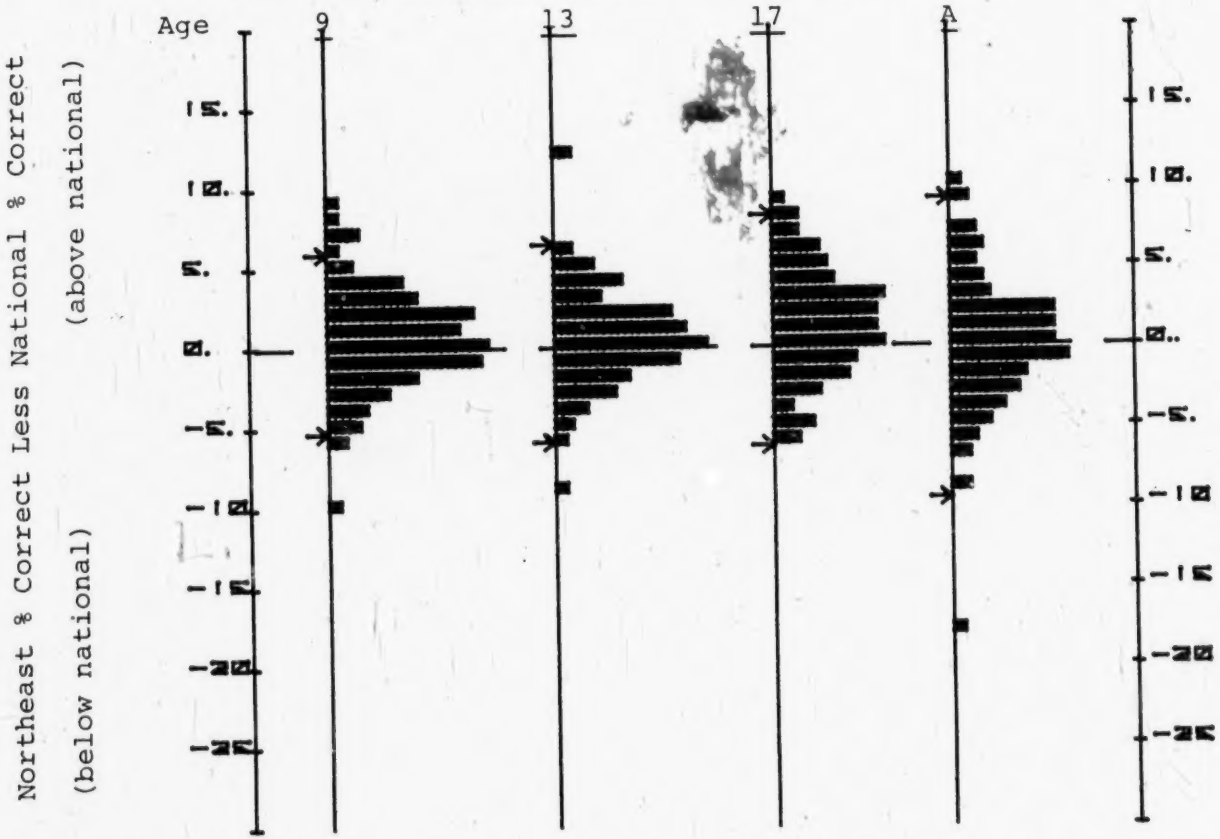
The distributions of balanced Northeast regional effects are presented in exhibit 8-3. The exercises falling beyond the boundaries marked by the arrows on exhibit 8-3 and so defined as atypical, are identified in exhibit 8-4, together with percent correct for national, adjusted percent correct for the Northeast, and the percent difference.

In general, the picture presented by the balanced data for the Northeast is similar to that provided by the unadjusted data of Report 4. At ages 9, 13, and 17 the medians are about 1% above the national medians (0.8%, 1.5%) in contrast to median effects of about 2% for the unadjusted medians. These are small but statistically reliable effects. The median for adults in the Northeast differ from adults in the country as a whole. The same conclusion was reached on the basis of the median of the unadjusted effects (0.7%).

Of the 18 exercises identified as atypical, all but four were also identified as atypical in the distributions of unadjusted effects, and two of these were near the line marking atypical items in the unadjusted distributions. Six of the eight exercises classified under objective 2 show an advantage for the Northeast. In contrast, only four of the nine exercises classified under objective 1 show an advantage. In general, then, the summary statement of Report 4 applies also to atypical exercises after adjustment: "there appears to be a tendency for the Northeast to show an atypical advantage on a higher proportion of objective 2 than of objective 1 exercises."

Exhibit 8-3

Distributions of Northeast Regional Effects, Balanced, for All Science Exercises at Four Ages



No. of Exercises	145	122	124	119
Median	0.8%	0.8%	1.5%	0.3%

Exhibit 8-4

Exercises Showing Atypical Effects, Balanced, for the Northeast for All Ages

Age	Exercise #	% Correct Northeast	% Correct Nat'l	% Difference	Content
9	R128*	64	55	9	Sun is a star
	R153*	46	38	8	Full sink would not explain faulty faucet
	U669*	59	52	7	
	U667*	70	63	7	
	U626*	79	72	7	
	U646	45	38	7	
	U676	47	41	6	
	R134	41	46	-5	Houseflies spread serious diseases
	R135*	33	38	-5	Effect of submerged rock on water level
	U635*	52	61	-9	
13	U760*	54	42	12	
	U758*	61	49	12	
	R224	28	33	-5	Matter behaves as if made of atoms
	R222*	30	38	-8	By natural selection, why giraffes have long necks
17	U861*	38	29	9	
	R339*	80	86	-6	Reason why car engine stops
Adult	R420*	54	44	10	Function of placenta in pregnant woman
	R441*	31	48	-17	Time a pendulum's swings

*Exercise also identified as atypical before balancing.

Note: Each---line separates atypically high from atypically low exercises.

Southeast

Distributions of balanced effects for the Southeast region are presented in exhibit 8-5. Exercises showing atypical balanced effects for the Southeast are listed in exhibit 8-6. As in the case of the Northeast samples, the balanced data for the Southeast tend to show a similar, if somewhat less extreme picture than the unadjusted data found in Report 4. Whereas the unadjusted median deficits were about 5%, the balanced median deficits are about 2.5%. The median balanced effects, therefore, are only half as large as the unadjusted median effects, but they are still large enough to indicate that performance in the Southeast tends to be below the national performance on science exercises.

Altogether, there are 26 science exercises identified as atypical after balancing, a number somewhat smaller than the 42 reported before balancing. Of the 26 exercises, 17 were also identified as atypical before balancing and nine were not. As in the case of the data for the Northeast, most of the fluctuations can be attributed to the influence of random sampling. There is, however, one difference between the lists of atypical exercises in the two reports worth noting. In Report 4, we noted a difference in the relative frequency of exercises classified under objective 2 exhibiting atypical advantage or deficit in the Southeast.

All nine of the objective 2 exercises identified in Report 4 (before balancing) as atypical showed a deficit. In contrast, of the six objective 2 exercises showing atypical effects for the Southeast after balancing, three show an advantage and three a deficit. Thus, the general tendency for objective 2 exercises to show a greater deficit than objective 1 exercises in the Southeast, as reported in exhibit 8-2, cannot be attributed to the influence of a few atypical exercises; the effect must be a general one involving the objective 2 exercises as a group.

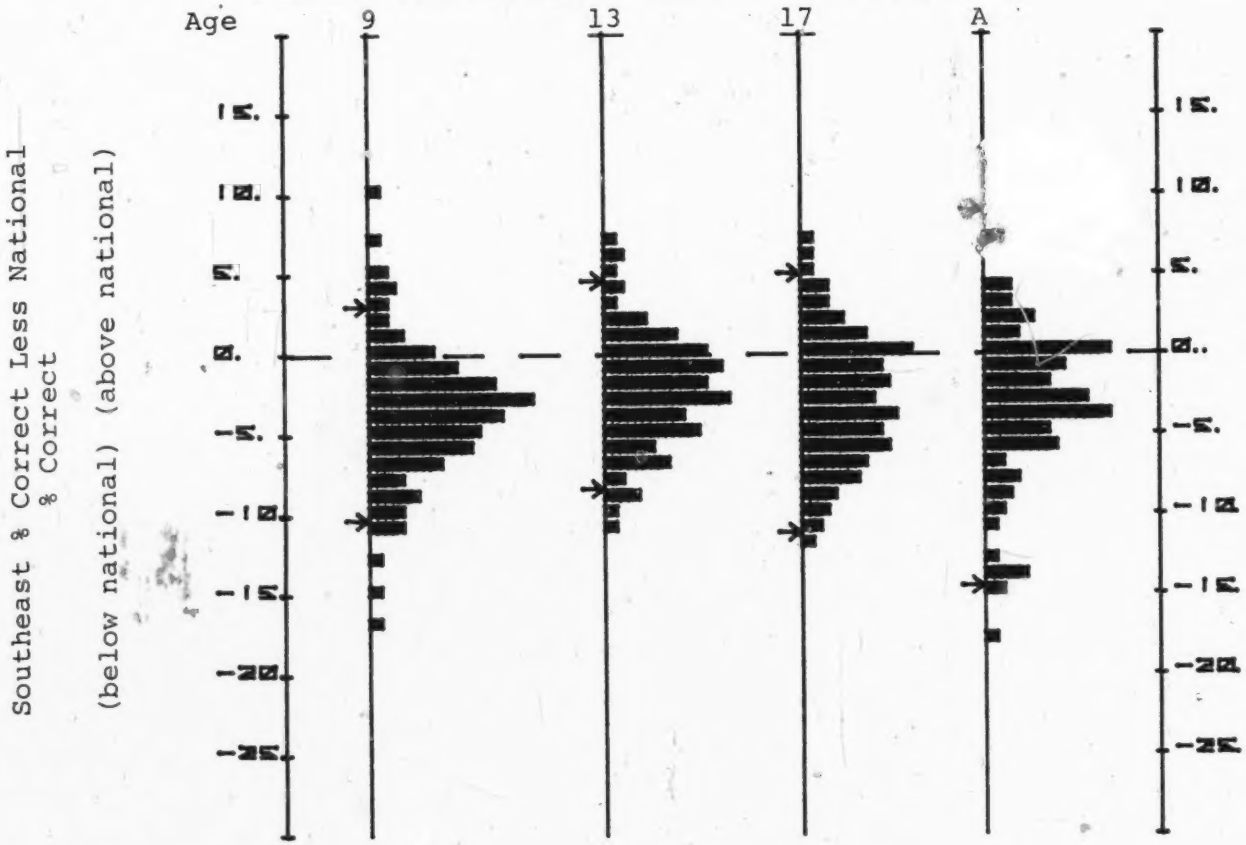
Central

Distributions of balanced effects for the Central region are shown in exhibit 8-7, and those exercises identified as atypical after balancing are listed in exhibit 8-8. The medians at ages 9 and 13 are less extreme than before balancing (1.0% and 1.2% in contrast to 1.6% and 1.9%), but it is still possible to say, on the basis of the balanced data, that the Central region performs about 1% better than the nation as a whole at ages 9 and 13. At ages 17 and adult, the changes as a result of balancing are small, a reasonable result in view of the fact that the effects before balancing were small.

Of the 11 exercises identified as atypical and listed in exhibit 8-8, five show a Central deficit and six a Central

Exhibit 8-5

Distributions of Southeast Regional Effects, Balanced, for All Science Exercises at Four Ages



No. of Exercises	145	122	124	119
Median	-3.1%	-1.9%	-2.5%	-2.4%

Exhibit 8-6

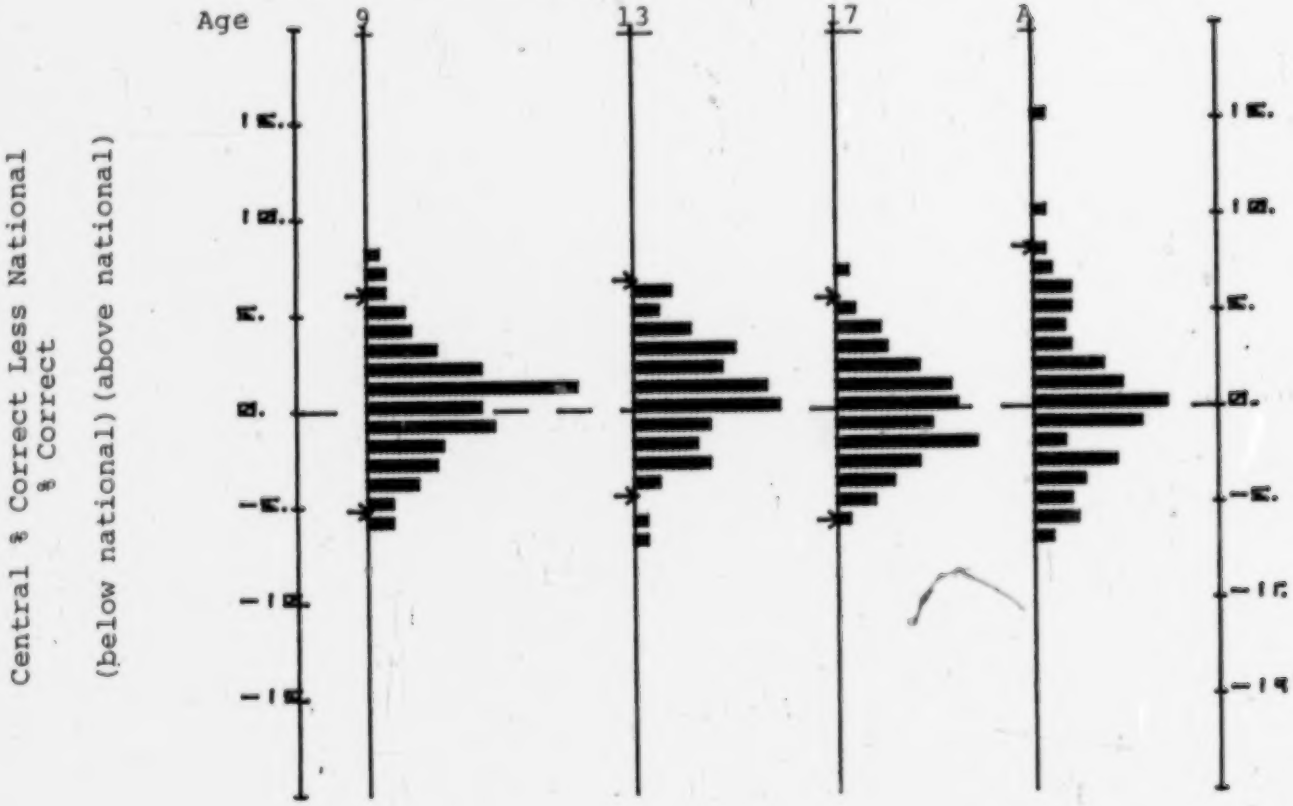
Exercises Showing Atypical Effects, Balanced, for the Southeast for All Ages

Age	Exercise #	% Correct Southeast	% Correct Nat'l	% Difference	Content
9	R140*	24	14	10	Dead plants form coal
	U677*	40	33	7	
	U653*	26	21	5	
	U638*	61	56	5	
	R138*	39	35	4	Clearing skies follow cold front
	R154*	20	16	4	Water freezing point same as ice melting point
	R152	57	53	4	Because of vaccinations few people get smallpox
	U635	51	61	-10	
	R156*	69	79	-10	Recognize a scientific explanation
	R129	44	54	-10	Interpreting a thermometer reading
	R128	45	55	-10	Sun is a star
	U619	65	77	-12	
	U626*	58	72	-14	
	R123*	50	66	-16	What scientists learn from fossils
13	R217*	55	48	7	Burning gasoline in a car creates heat
	R227*	31	25	6	Center of memory is cerebrum
	U718	67	61	6	
	U738	45	40	5	
	R234*	53	62	-9	Balance beam--weight in pan; weight on hook
	U736	33	44	-9	
17	U816*	67	60	7	
	U840*	26	20	6	
	U861*	18	29	-11	
Adult	No atypically high exercises				
	U960	15	29	-14	
	U920*	50	64	-14	
	U924*	39	56	-17	

*Exercise also identified as atypical before balancing.
Note: Each---line separates atypically high from atypically low exercises.

Exhibit 8-7

Distributions of Central Regional Effects, Balanced, for All Science Exercises at Four Ages



No. of Exercises	145	122	124	119
Median	1.0%	1.2%	0.1%	0.3%

Exhibit 8-8

Exercises Showing Atypical Effects, Balanced, for the Central for All Ages

Age	Exercise #	% Correct Central	% Correct Nat'l	% Difference	Content
9	U635*	69	61	8	
	R123*	73	66	7	What scientists learn from fossils
	R129	61	54	7	Interpreting a thermometer reading
	U640	48	53	-5	
	R126	54	59	-5	Center of Earth is hot
	R138*	30	35	-5	Clearing skies follow cold front
13	No atypically high exercises				
	U758*	44	49	-5	
	U760*	36	42	-6	
17	U828*	46	39	7	
	No atypically low exercises				
Adult	U960*	44	29	15	
	U962*	32	22	10	
	No atypically low exercises				

*Exercise also identified as atypical before balancing.

Note: Each---line separates atypically high from atypically low exercises.

advantage. Eight were among the 12 exercises identified as atypical in the distributions of unadjusted effects in Report 4, and three appear as atypical here for the first time. Two of the four atypical exercises classified as objective 2 show a positive effect and two a negative. Here, even more than in the case of the effects before balancing, the general impression is one of lack of pattern. Thus, we can only note that there are some large deviations from the median without proposing hypotheses to explain the deviations.

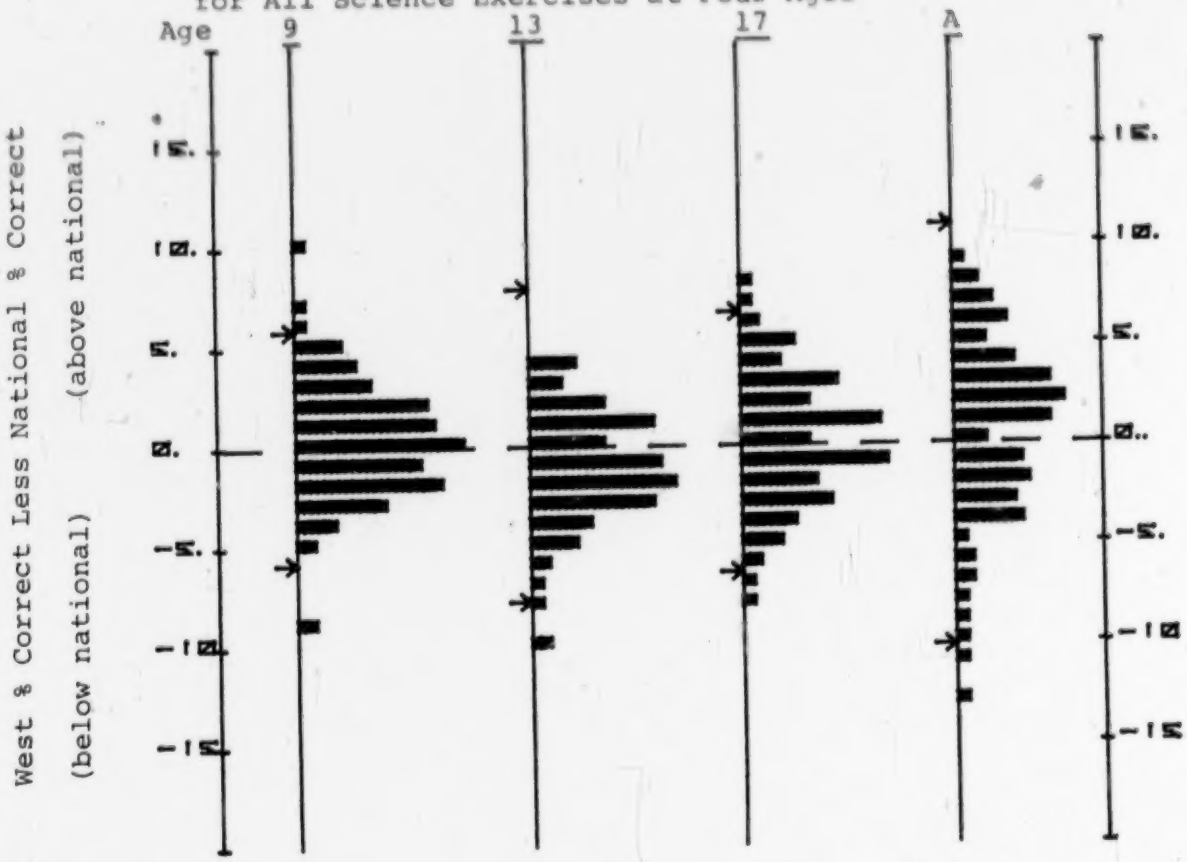
West

The distributions of balanced effects for the West are pictured in exhibit 8-9 and the atypical exercises are listed in exhibit 8-10. The balancing has reduced somewhat the median effects at ages 17 and adult (from 1.7% and 2.6% before balancing to 0.7% and 1.9% after balancing), and when these percentages are compared with the estimates of fluctuations to be expected from sample to sample, it is no longer possible to say that the performance in the West is any better than that for the country as a whole. The medians at ages 9 and 13 were not reliably different from the national performance before balancing, and the same remark applies to the medians after balancing.

Of the 13 exercises identified as atypical after balancing, 11 were so identified before balancing. When the four exercises showing an atypical advantage for the West are compared with the nine showing an atypical disadvantage, we identified no meaningful contrasts in terms of content of exercises.

Exhibit 8-9

Distributions of West Regional Effects, Balanced, for All Science Exercises at Four Ages



No. of Exercises	145	122	124	119
Median	0.6%	-0.8%	0.7%	1.9%

Exhibit 8-10

Exercises Showing Atypical Effects, Balanced, for the West for All Ages

Age	Exercise #	% Correct West	% Correct Nat'l	% Difference	Content
9	U640*	63	53	10	
	U647*	43	36	7	
	U667*	55	63	-8	
	U669*	44	52	-8	
13	No atypically high exercises				
	U718	54	61	-7	
	U711*	68	76	-8	
	U728*	44	53	-9	
17	U854*	72	64	8	
	U814*	72	65	7	
	U862*	19	25	-6	
	U828*	32	39	-7	
Adult	No atypically high exercises				
	R445*	1	11	-10	Find density of wood block using ruler and balance
	U960	17	29	-12	

*Exercise also identified as atypical before balancing.

Note: Each---line separates atypically high from atypically low exercises.

CHAPTER 9

SEX DIFFERENCES AFTER BALANCING

Since the sexes are relatively well balanced across the other classifications, we do not anticipate and do not find any remarkable effects due to balancing. Exhibit 9-1 shows the medians for each age. Consequently, a discussion of the balanced sex differences must lead to the same general conclusions as those reached from discussion of the unadjusted sex differences, as given in Report 4. Accordingly, no further comments are necessary here.

Exhibit 9-1

Median Sex Differences for Four Ages,
Unadjusted and Balanced

	Median difference: Male minus female		
Age	Unadjusted	Balanced	Change
9	1.8	1.4	0.4
13	2.9	2.4	0.5
17	5.0	4.0	1.0
Adult	9.9	9.2	0.7

APPENDIX A

METHODS

This report presents unadjusted and balanced results at four ages (9, 13, 17, and adult), classified in several ways. The unadjusted results are classified by color (Black and non-Black), parents' education (five levels), and size-and-type of community (seven levels). The balanced results are classified by sex (male and female), and geographic region (four areas), as well as the three unadjusted classifications mentioned above.* Our concern is to describe how well these groups of respondents perform on science exercises.

In the interest of clarity and ease, we want to make as few numerical comparisons as will adequately describe what we are to observe. When there are only two groups in a classification, as with sex divided into male and female, one numerical comparison will suffice. We need only compare one group with the other for each exercise. For sex we will use the difference:

$$\text{Sex Difference} = \left[\begin{array}{c}\text{\% Success}\\ \text{For Males}\end{array}\right] - \left[\begin{array}{c}\text{\% Success}\\ \text{For Females}\end{array}\right]$$

For example, one exercise given at age 9 shows 76% of the males and 68% of the females responding successfully. Using the procedure above:

$$\text{Sex Difference} = 76\% - 68\% = 8\%$$

Where there are more than two groups in a classification, such differences are not as simple to use. With four groups, such as four regions or four community sizes, simplicity is gained by comparing the percentage of success of respondents in each group with that in the nation as a whole. We shall call the number thus obtained an <u>effect</u>. One example would be

$$\text{Northeast Effect} = \left[\begin{array}{c}\text{Northeast}\\ \text{\% Success}\end{array}\right] - \left[\begin{array}{c}\text{National}\\ \text{\% Success}\end{array}\right]$$

*See Report 4 for unadjusted results for male-female and geographic region.

For one exercise which 66% of 9-year-olds in the Northeast and 55% of all 9-year-olds answered successfully, the regional effect is

Northeast
Effect = 66% - 55% = 11%

What Should Be Described?

For people of the same age, when we compare the performance of a group--classified by geographic region or size of community--with all people of that age in the country, the results are different for each exercise. They are different, but not too different. Even though some exercises show an advantage for the group, others a deficit, there is often a clear tendency for the exercises that we are considering as a whole to lean one way or the other. We describe this tendency by reporting the typical behavior of exercises.

Since not all exercises show the same advantage or deficit for the group, description of the typical behavior of all exercises in the class is usually not enough. We can learn something more from studying individual exercises for which the group advantage or deficit differs substantially from this typical behavior. If we use an appropriate rule to identify these atypical exercises, it will be worthwhile to mention each of them individually, telling something of their nature and reporting what advantage or deficit each shows when the group is compared with the whole country. This concentration on atypical exercises is particularly helpful because exercises showing close to typical behavior are often lacking in distinctive flavor. Atypical exercises, by contrast, often tell us something.

When we deal with the two sexes, we do the same things, except we shall compare males with females, rather than a group with the whole country, both in terms of typical behavior and in terms of atypical exercises.

Classes Of Exercises

Another approach to the discussion of our results is possible because the science exercises may be separated into classes by some common feature. We may investigate the behavior of the exercises for each class, and then ask how this behavior changes from one class to another.

Only a few separations into classes are considered in this report. The classification of items into physical and biological exercises is a separation by content. Another classification is provided by the four science objectives:*

*Norris, Eleanor L. (Ed.) Science Objectives. Ann Arbor, Michigan: Committee on Assessing the Progress of Education, 1969.

1. Know fundamental facts and principles of science;

2. Possess the abilities and skills needed to engage in the processes of science;

3. Understand the investigative nature of science;

4. Have attitudes about and appreciations of scientists, science, and the consequences of science that stem from adequate understandings.

Although other ways of classifying the exercises might be at least as useful in describing sex differences, regional effects, or community size effects, we have not found them.

What Shall Be Typical?

In the interest of simplicity and clarity, we choose to summarize the behavior of a set of exercises by the median (or midpoint) of the differences from national results. The median is a summary value such that an equal number of the values summarized lie on either side of it. For the 9-year-old sample--for instance, as in exhibit 2-1, there were 145 exercises--72 exercises where the Black effect was greater than -14.5% and 72 less than -14.5%. Because the same number of exercises had Black effects greater than -14.5% as well as less than -14.5% we call -14.5% the median Black effect and use it to summarize all 145 effects for the Black group.

The median is an effective typical value because: (1) it is easy to understand and (2) it is little affected by the presence or absence of unusual values.

What Shall Be Atypical?

Only a sample of each age group responded to each exercise, yet National Assessment results are concerned with whole populations--sometimes with all 9-year-olds in the country, sometimes with all 13-year-old boys, sometimes with all 17-year-olds in the Northeast, sometimes with all adults in small cities, and so on. Thus there must always be a step from sample to population in interpreting National Assessment results, allowing for the inescapable small differences between sample results and population facts. This inevitably raises statistical considerations--considerations which ought to guide our approaches, our exposition, and our statements without interfering excessively with the reporting and discussion of results.

The samples taken in National Assessment were well designed scientific probability samples. As a result, it would be possible to assess how large the differences between sample value and population value are likely to have been for almost any

quantity we chose to calculate from the results--for example, a Black effect. Results of such calculations have guided the choices in this report of how large a departure from typical (median) behavior qualifies an exercise for separate consideration. Appendix C discusses considerations involved in, and the exact nature of, this choice.

The chosen rule sets cutoffs determining which comparisons we call atypical. The cutoffs found by applying the chosen rule are shown by two arrows on each picture of the distribution of comparisons. Exercises corresponding to comparisons outside these cutoffs are discussed individually.

APPENDIX B

BALANCING

Purpose

This is the first of the National Assessment reports to look at more than one characteristic of respondents at a time. We try to reduce the extent to which effects of one characteristic can masquerade as effects of another characteristic.

Proportionate Numbers Create No Problems

We first look at some simple examples of what can--and, in appropriate circumstances, must--happen. Assume that we are assessing the effects of one characteristic that classifies respondents into either group A, B, or C and of another characteristic that classifies respondents into either group U or V. The two characteristics combined to form six combination subgroups: AU, AV, BU, BV, CU, and CV. For our first set of examples, we assume that the numbers of respondents in each of these six subgroups are as shown in the upper left corner of exhibit B-1. (The first three examples all use this same distribution of supposed observations.) Note that, for every group on the first characteristic (A, B, and C), representation from group U stands in a fixed proportion to that from group V. Also note that we have proportionate numbers from groups A, B, and C in both groups U and V.

In example 1, every U subgroup--whether it is AU, BU, or CU--has 60% success, and every V subgroup--whether it is AV, BV, CV--has 40% success. Since the AU subgroup is of size 100 and has 60% success, it includes 60 successes (60% of 100). The numbers of successes for the other five subgroups are calculated similarly. To find the total number of successes for all of group U, we have only to add up the number of successes for each of the three subgroups in U, finding 60 + 120 + 180 = 360. Similarly, we add to find the total number of respondents in group U, 100 + 200 + 300 = 600. The unadjusted percentage of success in group U is then 360/600 = 60%. When we do the same for group V and for groups A, B, C (defined by the other characteristic), we find very satisfactory results. Group U has a percentage of success that is 12% better than the overall percentage of success, 48%. Group V has a percentage of success that is 8% poorer than the overall percentage of success. No

Exhibit B-1

Some Examples of Simple Behavior When the Numbers of Cases are Proportional

Example 1

	# of cases U	# of cases V		% of success U	% of success V		# of successes U	# of successes V		
A	100	150	250	60%	40%	A	60	60	120	48%
B	200	300	500	60%	40%	B	120	120	240	48%
C	300	450	750	60%	40%	C	180	180	360	48%
	600	900	1500				360	360	720	
							60%	40%		48%

Example 2

	# of cases U	# of cases V		% of success U	% of success V		# of successes U	# of successes V		
A	100	150	250	40%	40%	A	40	60	100	40%
B	200	300	500	50%	50%	B	100	150	250	50%
C	300	450	750	60%	60%	C	180	270	450	60%
	600	900	1500				320	480	800	
							53.3%	53.3%		53.3%

Example 3

	# of cases U	# of cases V		% of success U	% of success V		# of successes U	# of successes V		
A	100	150	250	50%	30%	A	50	45	95	38%
B	200	300	500	60%	40%	B	120	120	240	48%
C	300	450	750	70%	50%	C	210	225	435	58%
	600	900	1500				380	390	770	
							63.3%	43.3%		51.3%

difference appears among groups A, B, and C. Thus, in this case, the percentages in the five marginal totals that correspond to simple unadjusted results are completely consistent with the percentages for the six subgroups that generate the data.

Example 2 shows how differences between A, B, and C will have the proper size when computed as above with proportionate numbers in the subgroups. In this example, the difference between U and V is zero.

Example 3 is a little more complex. It assumes that each U subgroup does 20% better than the corresponding V subgroup, but that there are also differences when we change from C to B or B to A. Again directly computing results from the groups (A, B, C, U, V) causes no trouble. The overall success is 51.3%. The percent of success for group A is 38%, that is, 13.3% below the total percent of success. The percent of success for group U is 63.3, that is, 12% above the total percent of success. And when we add together the three effects, we obtain the percent of success for the AU subgroup, i.e., 51.3% - 13.3% + 12.0% = 50%. The result of combining the effects for any of the other combinations is equally consistent. This consistency is something special; it depends essentially on the sizes of the six subgroups being proportional.

Disproportionate Numbers Can Make Trouble

We now turn to a different set of examples, where the numbers of respondents are not proportional within the categories. The upper left-hand corner of exhibit B-2 shows the new pattern.

Example 4 shows the same pattern for percent of successes as example 1 where there is no difference between A, B, and C within levels U and V and equal differences between U and V at each level of A, B, and C. Thus, in this example the marginal totals accurately reflect the difference between the U and V subgroups but they give quite an erroneous picture of the A, B, and C effects. By examining the distribution of the number of cases it is evident that the marginal (unadjusted) ratio of successes to cases for category C is in actuality measuring the effect of V. Thus, in this example, one variable masquerading for another has affected the unadjusted estimates of the effects of the A-B-C categories. This would not be apparent if we had not simultaneously looked at both the A-B-C and U-V classifications. Given disproportionate numbers, the true difference between U and V both appears as itself and masquerades as differences among A, B, and C.

Example 5 shows how differences among A, B, and C can masquerade as differences between U and V. Example 6 shows how each of two sets of real differences can both appear for themselves and masquerade as the other.

Exhibit B-2

Some Examples of Simple Behavior
When the Numbers are Disproportionate

Example 4

	# of cases U	# of cases V		% of success U	% of success V		# of successes U	# of successes V		
A	100	100	200	60%	40%	A	60	40	100	50%
B	50	150	200	60%	40%	B	30	60	90	45%
C	0	200	200	60%	40%	C	--	80	80	40%
	150	450	600				90	180	270	
							60%	40%		45%

Example 5

	# of cases U	# of cases V		% of success U	% of success V		# of successes U	# of successes V		
A	100	100	200	40%	40%	A	40	40	80	40%
B	50	150	200	50%	50%	B	25	75	100	50%
C	0	200	200	60%	60%	C	--	120	120	60%
	150	450	600				65	235	300	
							43.3%	52.2%		50%

Example 6

	# of cases U	# of cases V		% of success U	% of success V		# of successes U	# of successes V		
A	100	100	200	50%	30%	A	50	30	80	40%
B	50	150	200	60%	40%	B	30	60	90	45%
C	0	200	200	70%	50%	C	--	100	100	50%
	150	450	600				80	190	270	
							53.3%	42.2%		45%

In none of these examples do we obtain the percent of success for the subgroups by combining the overall effect and the unadjusted group effects as we did when the numbers of cases were proportional. Thus, in example 6, the overall percent of success is 45, the A effect is 5% lower and the U effect is 8.3% higher, and when we add we get 45% - 5% + 8.3% = 48.3%, not 50% as we would like. However, if we assume an A effect of -10%, a B effect of 0%, a C effect of +10%, a U effect of +15% and a V effect of -5%, then the combinations are consistent. For example, 45% - 10% + 15% = 50% for the AB combination and 45% + 10% - 5% = 50% for the CV combination. It has been possible, then, to find a set of effects that has removed the distortion due to disproportionate numbers in the subgroups, at least in this instance where the group effects are the same from one subgroup to another.

The Need

Disproportionate numbers in real population groups produce the problem that we have been discussing. For example, a larger fraction of Blacks are found both in the inner city and in rural areas. Larger fractions of Blacks also have low parental education. When we look at the whole group of Black children, some of the deficit shown by the group comes from effects characterizing inner cities or rural areas and some from the effects of lower parental education.

We should do what we can to see through this sort of confusion. It was possible to adjust the data in example 6 simply by inspecting the patterns of percentages for the six subgroups. These patterns, however, were based on hypothetical data. In real data there are often complex effects for combinations in the subgroups over and above the group effects. Furthermore, the hypothetical data of example 6 involved only two characteristics. In real data there are often more than two characteristics involved, and the simple inspection technique that we used in finding the relationships in example 6 will no longer work. There are, however, a number of ways to carry out computations that can help to reduce the distortion due to disproportionality. We next state the intended result of the calculation, then we say how we go about obtaining it.

A Balanced Fit

We intend to find group effects (expressed in percentages) that, when combined by addition with each other and with the overall percentage of success, give fitted percentages of success that correspond with the actual data in one simple way:

> if we choose any group by a single characteristic, say group A in example 6, and if we use the fitted percentages and the actual numbers of cases to

calculate the number of successes for each subgroup that involves group A, and if we then add these calculated numbers of successes, the total number of successes over all subgroups will be the same as the total actually observed in the data.

Suppose, for example, that we have 600 cases distributed as in the upper left of exhibit B-3 and that the total number of successes (270) is distributed among groups A, B, C, U, and V as shown in the upper right of exhibit B-3. The overall percentage of success is 270/600 or 45%. Now, if we let A, B, C, U, and V stand for the five group effects (in percentages), our definition of balancing says that the fitted number of successes in the AU subgroup may be represented by 100 (45% + A + U), the fitted number of successes in the AV subgroup is 100(45% + A + V), and the number of fitted successes in both subgroups by the sum of these two. Moreover, the definition says that this sum must be equal to the number of successes actually observed, which is 80. Thus, we can write the equation 100(45% + A + U) + 100(45% + A + V) = 80. We can also write four other equations, two for the rows involving groups B and C and two for the columns involving groups A and U, as illustrated in the middle section of exhibit B-3. If we try to solve these five equations for the five effects, however, we find that we are not able to obtain a unique solution. The equations are not independent since the three equations for the rows must sum to the overall total of 270 and likewise the two equations for the columns. We have only three independent equations, two for the rows and one for the columns, and we need two additional independent equations in order to find a single solution.

There is an additional requirement established by our definition. Overall, the effects of A, B, and C must balance each other since all that is left is the overall effect; likewise, the effects of U and V must balance each other. This means that we can write two additional equations based on the numbers of cases in the margins of our table. These are:

$$150(45\% + U) + 450(45\% + V) = 270$$

and

$$200(45\% + A) + 200(45\% + B) + 200(45\% + C) = 270$$

and these reduce to

$$150U + 450V = 0$$

and

$$200A + 200B + 200C = 0$$

If we then use these two last equations along with any two of the three equations based on the rows and any one of the two

Exhibit B-3

An Example of the Procedure Used in Obtaining a Balanced Fit

Example 7

# of cases	U	V	
A	100	100	200
B	50	150	200
C	0	200	200
	150	450	600

# of successes	U	V	
A			80
B			90
C			100
	80	190	270

The representation of the fitted successes in the subgroup

Subgroup	Representation
AU	100(45% + A + U)
AV	100(45% + A + V)
BU	50(45% + B + U)
BV	150(45% + B + V)
CU	0
CV	200(45% + C + V)

Equations

Combination

AU + AV	100(45% + A + U) + 100(45% + A + V) = 80
BU + BV	50(45% + B + U) + 150(45% + B + V) = 90
CU + CV	200(45% + C + V) = 100
AU + BU + CU	100(45% + A + U) + 50(45% + B + U) + 0 = 80
AV + BV + CV	100(45%+A+V) + 150(45%+B+V) + 200(45%+C+V) = 190
A + B + C	200(A + B + C) = 0
U + V	150U + 450V = 0

The solution

A effect = -10%
B effect = 0%
C effect = +10%
U effect = +15%
V effect = - 5%

equations based on the columns, we have five independent equations and five unknowns that can be solved for the five unique balanced effects. The solution gives the values in the lower part of exhibit B-3, and it is observed that the solution is the same as we obtained in example 6.

It is easy to look at this example and say, "Ah, I see. This example is the same as example 6, and the balanced fit reproduces the number of successes in each subgroup exactly." Notice, however, that in example 7 there are no numbers of successes given for the subgroups. It is true that the balanced fit of example 7 does produce an exactly matching fit to the actual data of example 6, but it is also a balanced fit to data that have different frequencies of success in the subgroups. Exhibit B-4 shows several patterns of successes all having the same balanced fit.

Balancing does not remove all the complications from the data. It does strip off the concealment involved in masquerades caused by disproportionate numbers.

More General Cases

We have considered only two characteristics, one with two groups, the other with three. The same technique extends to more groups. Extensions to more characteristics involve more complicated equations, but the interpretations are equally straightforward, so long as we realize that what we balance are the number--or equivalently the percents--of success for all groups defined by any single characteristic (and not necessarily for any subgroup defined by two or more characteristics).

If, as in this report, we balance

sex, two groups
color, three groups (including unascertained)
region, four groups
education, five groups (including unascertained)
size and type of community, seven groups

we have taken a long step to reduce masquerading. But it would be wrong to think that we have gone the whole way, for:

we have not yet used all, merely most, of the characteristics that were collected;

we have only used these characteristics in a rather limited way (we could have used more than four regions, more types of communities, final classifications of years of school completed, for instance);

we know that the overt characteristics are less than perfect measures of the variables that should

Exhibit B-4

Examples of Possible Observations
Leading to the Same Balanced Fits

The pattern of number of cases (for all examples)

	U	V	
A	100	100	200
B	50	150	200
C	0	200	200
	150	450	600

Some alternative patterns of numbers of successes

Example 8*

	U	V	
A	50	30	80
B	30	60	90
C	--	100	100
	80	190	270

Example 9

	U	V	
A	40	40	80
B	40	50	90
C	--	100	100
	80	190	270

Example 10

	U	V	
A	70	10	80
B	10	80	90
C	--	100	100
	80	190	270

Example 11

	U	V	
A	80	0	80
B	--	90	90
C	--	100	100
	80	190	270

Remarks

Since the numbers of successes for the A, B, C, U, V single-characteristic groups are 80, 90, 100, 80, 190 for each of the four examples, the fit of exhibit B-3 is a balanced fit for each pattern.

*Example 8 is the same as example 6.

concern us (years of school is a less-than-perfect measure of parental education, which is itself a less than perfect measure of either home attitude toward education or available aid in homework);

there are other characteristics of importance, e.g., economic status, that were not measured.

The deficiencies of balancing are clear; it cannot be the final answer. But the step from unadjusted comparisons to balanced ones is a long step from outward appearance toward--toward, not to--inward realities. The problem facing the schools is usually better shown by unadjusted values; the effectiveness of the educational process for a group is often better indicated by balanced results.

Another Way to Look at Things

We can look at the examples we have just considered in another, more detailed, way. Instead of comparing U with V overall, we can compare them for A, B, and for C separately. In example 6 of exhibit B-2, for example, AUs do 20% better than AVs, BUs do 20% better than BVs, and CUs do 20% better than CVs. Unless we allow disproportionate numbers to distort the picture, we ought clearly to say that, unless A, B, or C is considered to be relevant to the comparison of U with V, Us do 20% better than Vs. If the balanced effects did not say this, we would dislike them. Since they do say Us do 20% better than Vs, we are satisfied--at least so far as this example goes.

Some of the alternative examples of exhibit B-4 are something else again. Example 9, for instance, has percent success values as follows:

	U	V
A	40%	40%
B	80%	33.3%
C	?	50%

Here AUs are equally successful with AVs, while BUs are 46.6% more successful than BVs. Clearly the overall answer for Us compared to Vs has to be between 0% and 46.6%. Surely 20%, as recorded by the balanced fit, is a reasonable possibility.

When we consider the other two examples of exhibit B-4, we find 20% between 60% and -33% for example 10, and between 80% and ? for example 11. When the comparison of Us with Vs is not the same for AUs and AVs as for BUs and BVs or for CUs and CVs, any simple statement about the comparison of Us

and Vs has to be a compromise. The statement provided by a balanced fit is simple, convenient, and useful. It does not--and cannot--tell the whole story.

If the comparisons of Us with Vs is the same within A as within B as within C, then, when the number of cases in all 2 x 3 = 6 cells are proportional, the unadjusted (marginal) comparison of Us with Vs will be the same as:

the comparison within A.
the comparison within B.
the comparison within C.
the balanced-fit comparison.

This is fine for any way or ways in which the numbers are proportionate.

Thus it is natural to describe balanced effects as what would occur "if the other characteristics were represented proportionately in each group." This statement is only exact in the important special case we have just discussed, but it gives a useful impression in most cases.

In example 9 of exhibit B-4, the comparison of AUs with AVs (40% = 40%) is different from that of BUs with BVs (80% ≠ 33.3%). Here, different ways of changing the number of cases in each cell to make the number proportionate will give different overall comparisons (different marginal comparisons). Exhibit B-5 shows three results that could arise by throwing cases out of cells until the numbers become proportionate, if successes and failures have an equal chance of being thrown out.

We see from the examples (examples 12, 13 and 14) that just how we make the numbers proportional does affect the overall comparison of Us with Vs, but really not by as much as we might fear. There is no single comparison that "would hold if numbers were made proportionate," but even so, the picture of what would happen "if things were made proportionate" is a good mental picture to have about the meaning of balanced effects. So long as we keep it a little vague, it serves us quite well indeed.

A more complete description cannot stop with effects for single groups. In a later report we will give an account of how some of the larger subgroups, subgroups formed of respondents belonging to two specified groups, such as "graduated from high school" and "West"--perform, telling whether the overall effects for the two groups tell the story well enough when their values are added together, or whether we need to add in interactions as a third term.

Exhibit B-5

Two Results Obtainable by Discarding Cases
From Example 9 in an Unbiased Way

Example 12

# of cases	U	V
A	100	100
B	50	50
C	0	0
	150	150

% overall success	
53.3%	37.8%
Difference	14.5%

# of successes	U	V
A	40	40
B	40	17-
C	0	0
	80	57-

Example 13

# of cases	U	V
A	50	100
B	50	100
C	0	0
	100	200

% overall success	
60%	36.7%
Difference	23.7%

# of successes	U	V
A	20	40
B	40	33+
C	0	0
	60	73+

Example 14

# of cases	U	V
A	70	100
B	49	70
C	0	0
	119	170

% overall success	
56.1%	37.1%
Difference	19%

# of successes	U	V
A	28	40
B	39-	23+
C	0	0
	67-	63+

APPENDIX C

CHOOSING THE CUTOFFS

Our observed percentages of success are based on samples, but our interest is in whole populations. Thus our information is always less than complete. As a result, conclusions stated either in numbers or in words are approximate rather than exact, slightly blurred rather than sharp. Whatever rule we choose to fix the cutoffs, and thus to decide which comparisons are atypical and worth serious consideration, the performance of that rule will be less than perfect.

However we choose a cutoff rule, there will be some chance that an exercise whose population value is typical or close to typical will have a sample value classed as atypical by our rule. The more one tries to avoid this by stiffening the rule, thus calling fewer exercises atypical, the more often sample values will fail to be recognized as atypical when their population values are far from typical. This is a general problem that arises whenever sample results (including differences and effects) are examined in detail.

In choosing a rule, we must take account of these two kinds of unfortunate consequences. We may also need to consider what sizes of differences or effects are likely to be practically meaningful. Besides discussing individual exercises, we want to discuss the groups of exercises found atypical in a given direction. Our choice of cutoffs affects our ability to describe such groups. The rule whose details are given below was chosen with some attention to all these considerations.

Variances and Standard Errors

The samples drawn for the first assessment, both in and out of school, involved careful designs in which the country was divided into areas called strata. For each exercise, results were obtained for two groups of respondents in each stratum.*

*The two groups come from two "primary sampling units" in each stratum. (See appendix C of Report 1.) Because of the existence of planned half strata and the loss of some primary sampling units, losses that were duly allowed for in the estimation procedure, it was necessary to "collapse" a few pairs of strata by combining two original strata in one stratum for the purpose of assessing sampling variability.

To assess sampling variability, it is necessary to estimate a suitable measure of how far the results of the 1969-70 administration of a science exercise would have varied had different groups of respondents been selected in any or all strata. Our concern has to be with other possible selections according to the same random procedures used in the actual administration.

In this situation, the use of two groups of respondents per stratum allows us to calculate an estimate of such a measure of variability, the sampling variance, defined as the average square of the difference between a single administration and the average result for all possible administrations.

In this report, our immediate concern is with the estimated sampling variance of sex differences, regional effects, size and type of community effects, color effects, and parental education effects. It is equally useful to look at the standard errors of these comparisons, defined as the square roots of the estimated sampling variances.

These estimated sampling variances or standard errors will vary from one exercise to another for several reasons, including:

1. Different sample sizes for some exercises. (The time-consuming apparatus exercises were given to fewer respondents. Certain other exercises were excluded in a few jurisdictions. Shortness of class periods occasionally caused omission of later exercises.)

2. The automatic decrease in variance accompanying very easy or very hard exercises.

3. Larger or smaller differences in the sizes of actual school-to-school differences. (In some cases these presumably reflect the greater or lesser effect or extent of curriculum variations.)

4. Sampling variations inevitable in the process of estimating sampling variability.

For reference, appendix E presents estimated standard errors for effects, both unadjusted and adjusted, for each science exercise classified by objective.

Kinds of Cutoffs

If we wanted to look at results only for individual exercises, it would be natural to compare each deviation (whether from zero or from a typical comparison) with a suitable multiple of the standard error available for that deviation. Doing this

would correspond, in terms of cutoffs, to using a separate cutoff for each exercise. This would have been quite possible by using the estimated standard errors given in appendix E. However, it was felt that this would involve more details and complications than would be warranted by the likely gains. (The interested reader can use appendix E as a basis for his own experiments with this type of analysis.)

Instead, the choice was to use a single pair of cutoffs for each class of exercises considered in the report. To do this, it was necessary to combine standard errors or estimated sampling variances across exercises. For this purpose, it is appropriate to use a combined standard error, which is the square root of a combined estimated sampling variance, this latter being the arithmetic mean of the estimated sampling variances for the exercises involved.

Size of Cutoffs

The easiest way to use the combined standard error to fix the cutoffs is to start from the corresponding median and lay off a suitable multiple of the combined standard error on either side. If the multiple is large, very few exercises will be falsely called atypical, but we will fail to take advantage of the information provided by intermediate deviations.

There are circumstances under which we might be able to make good use of quite small multipliers, even fractions. When comparing one subclass of exercises well below the median with another subclass of exercises well above the median, larger subclasses could be helpful, so helpful as to outweigh the fact that a substantial fraction of each subclass would fall in that subclass purely by accident.

A multiplier of about two is conventional for many purposes. This choice leads to about 5% of all items entering one distinctive subclass or the other purely by chance. Since we deal with classes of about 120 exercises (and since 5% of 120 is 6) this would mean an average of about three "atypically high" exercises and about three "atypically low" exercises purely by chance. Thus this choice seemed more likely to confuse the picture than to clarify it.

Another practical detail should concern us. Our exhibits show only the integer percentage for a difference or effect. Thus all comparisons between 3.0 and 3.9 are shown as 3, for example, if our cutoffs are to be simply related to our pictures, they should fall at the end of such a range. (A cutoff between 2.9 and 3.0 or one between 3.9 and 4.0 is easily pictured and used. One between 3.4 and 3.5, or at 3.74, is not.)

As a result, it was decided to set the cutoffs in the following way:

1. start from the median comparison for all the exercises involved,

2. move up and down distances equal to 2.5 times the combined standard error, and

3. move further in each direction until the cutoff divides one integer-percent range from the next.

Thus if the median were -1.7% and the combined standard error was 1.9%, we would find first

$$(2.5) \times (1.9\%) = 4.75\%$$

then

$$-1.7\% - 4.75\% = -6.45\% \text{ and } -1.7\% + 4.75\% = 3.05\%$$

and then place the arrows between the intervals

-7.9 to -7.0 and -6.9 to -6.0

on the low side and between the intervals

3.0 to 3.9 and 4.0 to 4.9

on the high side (i.e., locate the whole percentage interval containing the computed cutoff point, then place the cutoff arrows at the point dividing that interval from the adjusted interval furthest from the median).

For each class of more than 100 exercises, an average of perhaps one or two exercises can be expected to fall outside these cutoffs because of sampling fluctuations. (The smaller sample sizes for apparatus exercises can increase these numbers somewhat.) A substantial number of exercises that we might have liked to consider atypical will of course fail to be recognized as such. Some such compromise is, however, necessary.

APPENDIX D

DEFINITION OF TERMS

The major reporting categories used in this report are: age, region, size and type of community (STOC), sex, color, and parents' education.

Age

Four age levels were assessed. Three of these were in-school --9-, 13-, and 17-year-olds--and two--17-year-olds and young adults--were out-of-school, sometimes referred to as the household sample. The criteria used or the operational definitions of the four ages are as follows:

9-year-olds--Born between 1/1/60 and 12/31/60
13-year-olds--Born between 1/1/56 and 12/31/56
17-year-olds--In-school: Born between 10/1/51 and 9/30/52
Out-of-school: Born between 10/1/50 and 9/30/51 and not enrolled in school in March '68 OR born between 10/1/51 and 9/30/52 and not enrolled in school in March 1969.
young adults--Born between 7/1/33 and 6/30/43

Region

Four geographical regions are being used for all age levels--Northeast, Southeast, Central, and West. The states falling in each of these four regions, for reporting purposes, are as follows:

Northeast	Southeast	Central	West
Del.	Ala.	N.D.	Hawaii
Maine	Ark.	S.D.	Alaska
N.H.	Fla.	Iowa	Idaho
Vt.	Ga.	Kansas	Mont.
D.C.	Ky.	Minn.	Wyo.
Md.	La.	Mo.	Utah
N.J.	Miss.	Neb.	N.M.
N.Y.	N.C.	Ill.	Nev.
Conn.	S.C.	Ind.	Cal.
Pa.	Tenn.	Mich.	Ore.

Northeast	Southeast	Central	West
Mass.	Va.	Ohio	Wash.
R.I.	W. Va.	Wis.	Ariz.
			Colo.
			Tex.
			Okla.

This classification is that used by the Office of Business Economics, Department of Commerce; the names for regions used by the OBE differ from National Assessment names for three regions:

National Assessment	OBE
Northeast	Northern Atlantic
Southeast	Southeast
Central	Great Lakes and Plains
West	West and Northwest

Size and Type of Community (STOC)

Previous National Assessment reports have given results for four sizes of community (SOC): big cities, fringes around big cities, medium size cities, and smaller places. These are defined in National Assessment Reports 4, 5, and 6. This (Report 7) and subsequent reports integrate three "extreme types of community," each composed of approximately 10% of the population, with four sizes of community representing the remaining 70% of the population into a seven-category STOC classification.

NOTE: The four "size of community" categories within the STOC classification are not equivalent to the four "size of community" categories within the SOC classification used in previous reports since the latter did not have the three "extreme types of community" extracted from them.

The definitions of the extreme types of community were derived from an occupation question for both the in-school and out-of-school samples (see exhibit D-1).

By classifying schools rather than counties, it was possible to identify much more uniform groups. One extreme group was selected in each of the three directions indicated by the exploratory analysis: (1) schools where high proportions were farmers or farm workers; (2) city schools where a high proportion of parents were either not regularly employed or on welfare, and only a low proportion were professional or managerial; (3) near-city and city schools where a high proportion of parents were professional or managerial and only low proportions were factory or farm workers, not regularly employed or on relief.

Exhibit D-1

Correspondence Between In- and Out-of-School Occupation Categories

Principal's questionnaire categories	Code	Out-of-school and adult categories (from DS Manual)
Professional or managerial personnel	A	Professional, technical, and kindred Managers, officials, proprietors (except farm)
Sales, clerical, technical, or skilled workers	B	Clerical and kindred Sales workers Craftsmen, foremen, and kindred
Factory or other blue collar workers	C	Operative and kindred Service workers, private household, and other Other laborers
Farm workers	D	Farmers and farm managers Farm laborers and foremen
Not regularly employed	E	Unemployed
On welfare	F	Receiving welfare
	00	Unclassified

Smaller extreme groups would have been more extreme; larger extreme groups would have had better determined percentages of success. The sizes of the three extreme groups, close to 10% of all those assessed, were chosen as a compromise between more extremeness and better determination.

STOC 1. Extreme Rural: 9.6% of all respondents, of which: 7.5% come from SOC category small places, which contained 28.3% of all respondents; 1.7% come from SOC category medium size city, which contained 25.7% of all respondents; 0.4% come from SOC category fringes around big cities, which contained 22.8% of all respondents. This STOC category represents respondents attending schools or living in a community having a population less than 3500. They are among those ranked highest on the rural index D - (C + 2A). These communities lie within counties comprising three of the four old SOC categories as follows:

> Fringes around big cities: 0.4%--within SMSA* counties containing a city with population greater than 200,000 but outside the city limits.
>
> Medium size city: 1.7%--within all other SMSA counties not containing a city with population greater than 200,000 and other non-SMSA counties containing a city with population between 25,000 and 50,000.
>
> Small places: 7.5%--within all other non-SMSA counties not included in medium size city.

STOC 2. Extreme Inner City: 9.9% of all respondents, of which: 8.5% come from SOC category big city, which contained 23.2% of all respondents; 0.9% come from SOC category medium size city, which contained 25.7% of all respondents; 0.5% come from SOC category fringes around big cities, which contained 22.8% of all respondents. This STOC category represents respondents attending schools or living in a community within the city limits or residential area served by a city with a population

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*SMSA--Standard Metropolitan Statistical Areas. An economic and social unit which is metropolitan in character and contains at least: (a) one central city with 50,000 inhabitants or more, or (b) two cities having contiguous boundaries with a combined population of at least 50,000. The smaller city must have a population of at least 15,000. The SMSA includes the county in which the central city is located, and adjacent counties that are found to be metropolitan in character and economically and socially integrated with the county of the central city.

greater than 150,000. They are among those ranked highest on the inner city index E + F - A. These communities lie within counties comprising three of the four old SOC categories as follows:

Big city: 8.5%--within the city limits of a city with population greater than 200,000.

Fringes around big cities: 0.5%--within SMSA counties containing a city with population greater than 200,000 but outside the city limits.

Medium size city: 0.9%--within other SMSA counties not included above.

STOC 3. Extreme Affluent Suburb: 10.0% of all respondents, of which: 5.3% come from fringes around big cities which contained, 22.8% of all respondents; 2.9% come from big city, which contained, 23.2% of all respondents; 1.6% come from medium size city, which contained 25.7% of all respondents. This STOC category represents respondents attending schools or living in a community within the city limits or residential area served by a city with a population greater than 150,000. They are among those ranked highest on the suburb index A - (C + D + E + F). These communities lie within counties comprising three of the four old SOC categories as follows:

Big city: 2.9%--within the city limits of a city with population greater than 200,000.

Fringes around big cities: 5.3%--within SMSA counties containing a city with population greater than 200,000 but outside the city limits.

Medium size city: 1.6%--within other SMSA counties not included above.

STOC 4. Rest of Big City: 11.8% of all respondents. This is the residue of the big city SOC category, which contained 23.2% (8.5% went to extreme inner city, and 2.9% to extreme affluent suburbs). This STOC category represents other respondents attending schools or living in a community within the city limits of a city greater than 200,000 not categorized above by STOC 2 or 3 as extreme inner city or extreme affluent suburb respectively.

STOC 5. Suburban Fringe: 16.6% of all respondents. This is the residue of the fringes around big cities SOC category, which included 22.8% of all respondents (5.3% went to extreme affluent suburbs, 0.5% to extreme inner city and 0.4% to extreme rural). This STOC category represents all other respondents (not categorized above by STOC 1, 2, or 3 as extreme rural,

extreme inner city, or extreme affluent suburb) attending schools or living in a community within an SMSA county containing a city with a population greater than 200,000, but outside the city limits. This category includes some communities between 3,500 and 150,000 and some non-farm communities less than 3,500.

STOC 6. Medium City: 21.4% of all respondents. This is the residue of the medium size city SOC category, which included 25.7% of all respondents. (1.7% went to extreme rural, 1.6% to extreme affluent suburb, 0.9% to extreme inner city.) This STOC category represents all other respondents (not categorized above by STOC 1, 2, 3, or 5 as extreme rural, extreme inner city, extreme affluent suburb, or suburban fringe) attending schools or living in a community served by a city with a population between 150,000 and 200,000, and within either an SMSA county having a city with a population less than 150,000 or a non-SMSA county having a city with a population of at least 25,000. This category includes some communities between 3,500 and 150,000 and some non-farm communities less than 3,500.

STOC 7. Small City: 20.7% of all respondents. This is the residue of the small places SOC category, which contained 28.3% of all respondents (7.5% went to extreme rural). This STOC category represents all other respondents (not categorized above by STOC 1, 2, 3, 5, or 6 as extreme rural, extreme inner city, extreme affluent suburb, suburban fringe, or medium city) attending schools or living in a community within a non-SMSA county. This category includes communities between 3,500 and 25,000 and some non-farm communities less than 3,500.

Sex

Data are reported for Males and Females.

Color

Data are reported for Blacks and non-Blacks. Color classification was based on observation of the respondent at the time of the administration by the field staff member who administered the package.

Parents' Education

All data are reported in terms of the highest level of education of either parent or the guardian of a 17-year-old respondent. Parents' Education is reported as follows:

Level 1: Less than or equal to 8th grade
Level 2: More than 8th grade but not a high school graduate
Level 3: Graduated from high school
Level 4: Some formal education beyond high school

APPENDIX E

NATIONAL PERCENTAGES OF SUCCESS, EFFECTS, AND STANDARD ERRORS FOR REGION, SEX, SIZE AND TYPE OF COMMUNITY (STOC), COLOR, AND PARENTS' EDUCATION--UNADJUSTED AND BALANCED--FOR RELEASED AND UNRELEASED EXERCISES BY OBJECTIVE

Data on the percentage of success, effects, and standard errors of effects (unadjusted and balanced) for each science exercise are shown for the four ages--9, 13, 17, and adult. Within each age group they are identified as released or unreleased exercises by a three-digit number preceded by an R (released) or a U (unreleased) as follows:

Age	Released	Unreleased
9	R100s	U600s
13	R200s	U700s
17	R300s	U800s
Adult	R400s	U900s

(All released exercises are reproduced in NAEP Report 1.)

The exercises are listed according to objective 1 first, followed in turn by exercises for objectives 2, 3 and 4. For each objective, the released (unreleased) exercise numbers are assigned in order from highest to lowest percentage of national success. Thus, within each age the exercises are divided into two main groups--released and unreleased--with the exercises listed in order of decreasing national success within each objective.

In this appendix, the first line corresponding to each exercise shows the identifying number, national percentage of success, and for released exercises, a short description of the exercise content. The next four lines show the unadjusted effects and standard errors and the balanced effects and standard errors, respectively, for the five classifications of respondents included in this report (region, sex, STOC, color, and parental education). Exercises which overlap other exercises at other ages are listed in appendix C of Report 4. Identification of physical and biological science classifications are also included in appendix C of Report 4.

NATIONAL PERCENTAGE OF SUCCESS, AND EFFECTS FOR REGION, SEX, SIZE, COLOR AND EDUCATION FOR RELEASED AND UNRELEASED SCIENCE EXERCISES GROUPED BY OBJECTIVE.

AGE 9

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF.SUB.	INNER SUB. FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
OBJECTIVE: Know the fundamental facts and principles of science.																					
EXER: R101 NATL % 93.6 A human baby comes from its mother's body.																					
UNADJ EFFECT	1.9	-7.1	2.6	1.2	0.3	-0.3	-6.4	-7.4	2.6	2.0	2.8	-0.2	-1.1	2.2	-10.6	-5.9	-4.6	-2.8	-0.1	3.1	-1.5
STD ERROR	1.2	1.8	0.9	1.2	0.8	0.8	4.6	1.5	2.6	1.7	1.1	1.0	1.7	0.5	2.3	2.8	4.7	2.7	1.0	0.8	0.9
BAL EFFECT	0.7	-5.2	2.0	1.5	0.1	-0.1	-3.0	-1.0	0.3	1.6	0.8	0.1	-0.5	1.8	-7.5	-6.7	-2.5	-2.0	-0.1	2.1	-1.1
STD ERROR	1.2	1.8	0.9	1.2	0.7	0.7	3.4	1.6	2.7	1.6	1.1	1.0	1.6	0.4	2.8	2.5	3.8	2.7	1.0	0.7	1.0
EXER: R102 NATL % 92.8 A stick needs to be dry in order to burn.																					
UNADJ EFFECT	1.1	-7.5	2.1	1.9	0.3	-0.3	-7.0	-12.9	-1.3	1.5	3.1	2.8	0.9	2.5	-12.3	-6.8	-6.5	-3.8	1.6	3.1	-2.9
STD ERROR	1.1	1.8	1.1	1.0	0.5	0.5	3.1	3.2	3.0	1.6	1.0	1.0	1.3	0.4	2.0	2.9	3.7	1.8	0.9	0.9	1.0
BAL EFFECT	-0.0	-5.5	1.7	2.1	0.4	-0.5	-5.0	-6.9	-1.7	1.9	0.3	2.4	1.5	1.7	-8.4	-4.9	-4.9	1.5	1.2	2.1	-2.4
STD ERROR	1.0	1.5	0.9	1.0	0.5	0.5	2.9	3.7	2.4	1.6	1.0	0.8	1.1	0.4	2.0	2.5	3.5	1.8	0.9	0.7	0.9
EXER: R103 NATL % 92.4 Teeth are brushed to keep them from decaying.																					
UNADJ EFFECT	1.1	-3.8	1.3	0.6	-0.9	0.8	-5.2	-11.4	1.7	-2.7	3.5	-0.4	1.4	2.4	-10.5	-8.3	-10.4	-3.8	2.3	3.0	-2.2
STD ERROR	1.1	1.6	1.2	1.2	0.5	0.5	5.1	4.2	2.1	3.1	1.4	1.4	1.3	0.5	2.1	3.1	6.9	3.1	1.0	0.9	0.9
BAL EFFECT	-0.1	-2.1	0.5	1.3	-1.1	1.0	-2.0	-4.4	-0.2	-2.1	1.9	-0.7	1.3	1.8	-7.8	-7.0	-8.5	-3.2	2.1	2.3	-1.8
STD ERROR	1.1	1.2	1.3	1.2	0.5	0.5	3.2	4.6	2.5	2.8	1.4	1.3	1.0	0.5	2.1	3.1	6.1	2.9	1.0	0.9	0.9
EXER: R104 NATL % 91.3 Iron cannot be burned in an ordinary fire.																					
UNADJ EFFECT	2.8	-3.3	1.6	-2.0	-0.7	0.8	-0.0	-29.0	7.3	-1.4	-0.6	2.4	1.9	3.8	-15.7	-21.0	-11.0	-0.0	1.8	3.4	-3.5
STD ERROR	1.4	2.1	1.3	1.8	0.6	0.6	3.7	3.7	0.9	3.0	1.5	1.5	1.2	0.6	3.0	4.3	4.6	2.3	1.2	0.8	1.1
BAL EFFECT	2.5	-3.1	-0.1	0.4	-0.8	0.8	2.2	-18.4	4.0	-0.6	-2.1	1.6	2.4	2.6	-10.8	-14.1	-8.8	0.3	1.7	2.0	-2.4
STD ERROR	1.0	1.3	1.1	1.4	0.6	0.6	2.2	1.4	0.8	2.9	1.5	1.2	1.2	0.4	2.5	3.8	4.0	2.1	1.1	0.7	0.9
EXER: R105 NATL % 90.4 Bees get their food (nectar) from flowers.																					
UNADJ EFFECT	0.2	-4.9	2.4	1.5	0.2	-0.2	-1.1	-22.5	6.9	-4.2	4.3	-1.3	3.2	3.4	-20.3	-7.3	-11.0	1.3	1.6	4.0	-4.5
STD ERROR	1.6	2.2	1.3	1.4	0.6	0.6	3.9	3.4	1.2	2.7	1.4	1.7	1.5	0.7	2.5	3.4	3.2	2.5	1.2	0.9	1.2
BAL EFFECT	-1.0	-1.8	0.8	1.7	-0.2	0.2	0.4	-13.4	4.3	-3.0	2.7	-1.4	2.2	2.5	-15.2	-4.4	-8.4	3.1	1.6	2.5	-3.4
STD ERROR	1.3	1.4	1.1	0.9	0.6	0.6	2.4	1.0	1.2	2.3	1.2	1.3	1.4	0.6	2.5	3.6	3.2	2.5	1.0	0.9	1.0
EXER: R106 NATL % 88.6 Thick dark-gray clouds are more likely than others to bring rain on a summer day.																					
UNADJ EFFECT	0.9	-3.9	3.6	-1.7	1.3	-1.3	-9.2	-18.1	4.0	-4.8	5.0	2.0	2.1	3.3	-19.4	-7.6	-11.2	-0.3	-0.7	3.8	-2.5
STD ERROR	1.5	2.3	1.4	1.7	0.8	0.8	3.2	3.5	2.3	3.4	1.6	1.5	1.6	0.7	2.3	3.8	4.4	2.8	1.4	1.0	1.5
BAL EFFECT	-0.9	-0.3	2.8	-2.0	1.0	-1.0	-7.8	-9.4	1.4	-3.7	4.0	1.6	1.0	2.3	-15.1	-2.8	-8.4	1.9	-0.8	2.5	-1.7
STD ERROR	1.3	1.6	1.3	1.5	0.7	0.7	3.5	3.4	2.5	2.7	1.6	1.1	1.5	0.6	2.8	3.9	4.4	2.7	1.4	0.9	1.3

EXER: R107 NATL % 88.3 Soaking with water is generally a good way to put out a wood fire.

UNADJ EFFECT	0.6	-1.5	2.7	-2.3	2.4	-2.4	-2.4	-15.0	2.7	-0.1	1.0	0.3	2.8	2.7	-12.9	-12.0	-2.2	-5.3	1.1	1.9	-1.8
STD ERROR	1.7	2.4	1.6	1.8	0.8	0.8	3.1	4.1	3.1	2.6	1.7	2.1	2.2	0.6	2.8	3.2	3.7	3.4	1.5	0.9	1.3
BAL EFFECT	-0.3	0.4	1.3	-1.5	2.2	-2.3	-0.8	-7.1	0.4	1.4	-0.0	-0.3	1.8	2.3	-11.0	-9.6	-0.3	-4.1	0.6	0.9	-0.7
STD ERROR	1.5	2.1	1.4	1.6	0.9	0.9	2.6	4.4	3.0	2.3	1.5	1.8	2.0	0.6	2.7	3.7	3.6	3.3	1.4	0.8	1.2

EXER: R108 NATL % 87.6 Protein is important in building good muscle.

UNADJ EFFECT	2.8	-4.3	3.1	-3.6	0.7	-0.9	-13.2	-18.2	7.2	-2.8	4.6	0.1	0.3	2.8	-9.9	-16.6	-9.0	-0.4	2.7	5.2	-5.4
STD ERROR	1.3	2.5	1.3	1.7	0.7	0.8	7.7	3.2	2.3	4.0	1.4	1.4	1.7	0.6	2.4	4.1	4.8	2.1	1.5	1.0	1.1
BAL EFFECT	0.8	-1.3	1.2	-1.5	0.5	-0.6	-11.2	-11.5	4.8	0.6	3.5	0.2	-0.9	1.7	-4.9	-12.1	-6.5	2.1	2.8	3.3	-4.4
STD ERROR	1.2	1.9	1.1	1.3	0.7	0.8	7.8	1.5	2.4	2.9	1.6	1.4	1.5	0.6	3.4	3.9	4.3	2.3	1.5	0.9	1.0

EXER: R109 NATL % 86.3 Nearly all rocks are solid.

UNADJ EFFECT	1.2	-6.0	6.1	-3.4	-0.4	0.5	-19.0	-14.3	7.2	-2.6	0.0	2.9	5.3	5.0	-22.6	-21.7	-10.7	-11.3	1.3	6.7	-4.5
STD ERROR	1.9	2.5	1.6	2.7	0.8	0.9	5.8	3.0	2.3	3.6	2.6	2.0	1.8	0.9	2.5	6.5	4.9	4.2	1.1	1.1	1.3
BAL EFFECT	-1.5	-3.3	5.3	-1.8	-0.8	0.9	-11.2	0.4	2.4	0.6	-3.5	1.4	4.5	4.2	-20.3	-16.4	-7.3	-6.0	1.5	4.6	-4.0
STD ERROR	1.6	1.5	1.3	1.5	0.7	0.8	3.8	3.6	2.1	2.6	2.5	1.4	1.5	0.9	2.7	5.3	4.1	3.4	1.1	1.0	1.0

EXER: R110 NATL % 85.3 Map reading: an island is completely surrounded by water.

UNADJ EFFECT	0.5	-2.7	0.5	1.4	1.2	-1.3	-6.6	-20.4	8.2	-7.6	3.5	0.3	3.6	3.1	-21.6	-9.4	-6.9	-2.7	-1.0	6.4	-5.4
STD ERROR	1.6	3.6	1.5	1.7	0.8	0.9	4.9	3.5	1.9	2.5	1.6	1.6	1.8	0.7	3.6	3.0	5.1	3.5	1.4	1.0	1.4
BAL EFFECT	0.3	-2.4	0.5	1.4	1.2	-1.3	-3.4	-12.0	5.5	-6.4	3.0	-0.4	2.4	2.2	-16.0	-5.8	-4.4	-0.9	-0.9	5.8	-4.0
STD ERROR	1.5	1.7	1.3	1.4	0.8	0.9	3.5	3.7	2.1	2.5	1.6	1.5	1.8	0.6	3.6	2.7	5.2	3.4	1.4	1.0	1.4

EXER: R111 NATL % 83.0 Day and night occur because of the earth's rotation.

UNADJ EFFECT	-1.5	-5.1	4.5	1.3	1.9	-2.0	-4.9	-6.9	7.1	-3.1	-0.5	-1.8	3.6	2.1	-15.2	-4.8	-6.6	-4.4	0.4	4.9	-4.1
STD ERROR	1.9	2.2	1.6	1.7	0.8	0.8	6.5	4.1	1.9	2.6	2.3	2.0	2.1	0.6	3.3	3.6	4.4	4.4	1.9	1.2	1.4
BAL EFFECT	-1.5	-4.9	4.4	0.7	1.9	-2.0	-3.2	-0.8	6.3	-2.6	-1.7	-1.9	2.5	1.7	-12.2	-4.0	-5.7	-2.9	0.6	3.6	-3.2
STD ERROR	1.6	2.1	1.5	1.7	0.8	0.8	4.6	3.8	2.1	2.6	2.2	1.8	1.6	0.5	3.3	3.7	4.7	4.4	1.9	1.2	1.3

EXER: R112 NATL % 83.0 Acid should be handled carefully.

UNADJ EFFECT	-1.4	-5.6	3.8	1.0	2.0	-2.1	-2.0	-18.1	3.5	-2.6	7.1	-1.3	-0.3	3.1	-15.3	-8.9	-5.2	1.1	3.1	4.0	-5.3
STD ERROR	1.5	2.1	1.5	1.6	0.9	1.0	2.4	4.0	1.9	3.4	1.7	2.0	2.1	0.6	2.8	3.4	3.6	2.6	1.3	1.2	1.3
BAL EFFECT	-3.0	-2.6	3.1	1.2	1.9	-2.0	-1.6	-10.7	3.5	-1.2	4.4	-1.6	-0.2	2.1	-11.2	-4.6	-3.3	2.7	2.3	2.7	-4.1
STD ERROR	1.5	2.0	1.6	1.6	0.9	0.9	1.9	4.4	1.7	3.0	1.7	2.0	1.7	0.6	3.0	3.7	3.4	2.1	1.1	1.2	1.2

EXER: R113 NATL % 83.3 Pine trees stay green in the winter.

UNADJ EFFECT	5.4	-4.6	3.6	-5.9	0.5	-0.5	-4.3	-23.0	6.1	-5.0	-0.5	1.8	5.2	3.3	-15.1	-21.9	-3.9	-6.6	1.5	4.6	-4.6
STD ERROR	1.5	2.4	1.7	2.0	0.8	0.8	7.2	5.7	2.7	2.4	2.5	1.6	1.8	0.6	3.0	3.5	3.9	4.6	1.7	1.0	1.1
BAL EFFECT	5.3	-6.1	3.5	-4.2	0.4	-0.4	-1.6	-15.3	5.6	-3.3	-2.6	0.4	4.4	2.1	-9.2	-14.8	-0.7	-3.1	0.9	3.2	-3.5
STD ERROR	1.4	2.2	1.8	1.9	0.7	0.8	5.7	6.0	2.5	2.4	2.0	1.6	2.2	0.6	3.3	4.1	3.5	4.2	1.8	1.1	1.2

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME APP SUB	INNER URBAN FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: R114 NATL % 80.9 Alligators are found in swamps.																					
UNADJ EFFECT	4.8	-2.4	-1.0	-1.8	2.6	-2.5	-1.2	-21.3	12.1	3.8	-1.2	1.3	1.5	4.7	-20.4	-16.2	-15.8	-4.2	2.0	8.2	-7.4
STD ERROR	1.9	2.6	2.0	2.1	1.1	1.1	6.0	3.6	3.0	3.0	2.5	1.8	2.3	0.7	2.4	3.9	5.6	4.7	1.9	1.2	1.6
BAL EFFECT	3.7	-0.1	-1.7	-1.6	2.4	-2.4	1.7	-5.9	6.0	3.8	-3.1	0.1	0.5	4.0	-17.5	-12.9	-12.3	-4.5	1.9	7.2	-6.7
STD ERROR	1.5	2.1	1.7	1.8	1.0	1.0	5.3	4.1	2.8	3.6	2.3	1.4	2.0	0.7	2.8	3.9	5.6	4.7	1.8	1.3	1.7
EXER: R115 NATL % 79.3 To see something, light must reach the eye.																					
UNADJ EFFECT	-2.5	2.0	-1.2	2.3	-1.0	1.1	2.4	-10.8	0.7	-4.8	1.3	-0.7	3.0	1.1	-3.1	-9.1	-11.1	8.5	2.5	1.0	-2.7
STD ERROR	2.7	2.3	1.9	2.1	1.1	1.1	2.8	4.3	2.9	3.9	3.2	2.4	2.2	0.4	2.5	3.4	5.3	3.2	2.0	1.4	1.5
BAL EFFECT	-2.4	1.7	-2.5	4.1	-1.0	1.0	3.1	-5.8	-1.1	-3.9	1.4	-1.1	2.5	1.1	-3.3	-8.6	-11.0	7.6	2.3	0.5	-1.8
STD ERROR	2.6	2.2	1.9	2.2	1.1	1.1	2.9	4.5	2.7	4.0	3.1	2.4	2.3	0.5	2.6	3.7	5.5	3.3	2.0	1.4	1.6
EXER: R116 NATL % 79.7 One kind of plant which does not have green leaves is a mushroom.																					
UNADJ EFFECT	4.2	-9.5	-0.8	4.0	-2.6	2.7	-6.2	-25.5	5.5	-0.1	6.5	2.7	-2.7	4.9	-27.6	-7.6	-14.2	-7.9	1.9	4.1	-1.9
STD ERROR	1.8	2.7	2.1	1.9	1.0	1.0	5.4	4.5	2.7	3.8	2.8	1.7	2.6	0.7	2.4	4.8	5.1	4.6	1.6	1.3	1.3
BAL EFFECT	2.0	-3.5	-1.6	2.6	-2.5	2.6	-0.2	-13.8	2.1	1.8	3.3	1.0	-2.4	3.9	-22.5	-4.1	-10.3	-4.7	0.5	2.7	-0.6
STD ERROR	1.5	1.8	1.7	1.5	0.9	0.9	4.1	4.6	2.8	2.5	2.5	1.5	2.0	0.6	2.3	3.9	4.6	4.7	1.4	1.3	1.1
EXER: R117 NATL % 77.0 A burning candle when sealed in a glass jar goes out.																					
UNADJ EFFECT	1.3	-3.7	0.3	1.5	5.6	-5.4	-6.4	-27.6	8.7	-2.4	7.3	-0.8	-2.2	4.4	-19.5	-15.8	-13.4	-15.2	2.0	8.0	-4.2
STD ERROR	2.3	3.6	2.7	2.4	1.1	1.0	9.3	5.2	3.9	4.5	2.4	1.9	3.1	1.0	3.9	4.5	6.1	4.6	1.9	1.4	1.6
BAL EFFECT	-1.0	0.4	-1.3	2.4	5.0	-4.8	-0.3	-15.6	4.2	-0.7	4.5	-1.2	-2.1	3.3	-14.4	-12.3	-11.1	-13.1	2.0	5.5	-2.6
STD ERROR	1.8	2.3	2.6	1.7	1.0	0.9	6.9	5.8	3.1	4.3	2.2	1.4	2.8	1.0	4.3	4.7	5.3	4.3	1.9	1.5	1.6
EXER: R119 NATL % 72.7 Lifting a 20 lb weight 2 feet is more work than lifting the same weight 1 foot, or a 10 lb weight 2 feet.																					
UNADJ EFFECT	4.5	-4.0	-0.9	-0.7	-0.4	0.4	-3.9	-9.7	11.2	-2.7	-0.8	-0.2	-0.0	3.1	-18.9	-6.2	-6.0	0.8	0.4	5.6	-5.5
STD ERROR	2.3	2.8	2.3	2.4	1.2	1.3	4.5	5.8	3.4	5.0	3.1	2.8	2.0	0.7	3.0	4.3	6.1	4.2	2.1	1.6	2.0
BAL EFFECT	3.0	-2.2	-0.9	-0.5	-0.6	0.6	1.1	2.4	7.4	-1.5	-3.0	-1.2	-0.6	2.9	-17.6	-5.1	-4.7	2.8	0.8	4.0	-4.8
STD ERROR	2.0	2.3	2.2	2.6	1.1	1.3	4.3	5.4	3.2	4.6	3.2	2.7	2.0	0.7	3.1	4.7	6.0	4.3	2.0	1.5	1.8
EXER: R120 NATL % 72.8 When a block on a string swings down and strikes a second stationary block, the second block is caused to swing away.																					
UNADJ EFFECT	2.6	-7.9	5.3	-1.6	2.1	-2.2	-14.8	-22.8	15.1	2.6	3.9	-0.9	0.9	4.7	-26.0	-14.2	-27.1	-4.5	-3.4	8.6	-3.6
STD ERROR	2.4	3.5	2.3	2.6	0.9	0.9	7.5	3.6	2.8	4.5	2.6	2.7	2.4	0.9	3.9	4.6	5.2	5.1	1.8	1.4	1.8
BAL EFFECT	-0.2	-2.0	3.4	-1.9	1.7	-1.7	-11.0	-9.6	9.7	4.4	1.9	-1.5	-0.2	3.5	-19.7	-9.7	-22.1	-0.5	-3.2	6.5	-2.6
STD ERROR	2.1	2.3	1.9	2.0	0.9	0.9	5.5	4.0	2.9	3.7	2.5	2.3	2.4	0.8	4.1	4.5	5.8	5.0	1.5	1.3	1.7
EXER: R121 NATL % 71.5 The sun is seen only during the daytime because the earth is turning.																					
UNADJ EFFECT	1.1	-9.1	6.2	-1.2	1.6	-1.8	-15.5	-19.6	9.2	-9.5	5.9	3.3	0.6	4.7	-20.4	-21.5	-14.6	-10.7	0.9	6.3	-3.3
STD ERROR	2.3	3.3	2.0	2.9	1.0	1.1	5.3	5.6	3.1	3.5	2.5	2.7	3.3	0.8	2.6	5.1	5.2	4.5	2.0	1.6	1.6
BAL EFFECT	-1.7	-7.3	4.5	2.2	1.3	-1.5	-7.0	-8.9	5.5	-8.6	2.5	2.8	0.0	3.3	-13.1	-17.2	-11.3	-5.7	1.3	3.8	-2.4
STD ERROR	2.1	2.7	1.9	2.2	1.0	1.1	4.3	4.7	3.0	4.1	2.3	2.5	2.8	0.7	3.4	4.1	4.5	4.8	1.9	1.5	1.5

EXER: R122 NATL % 71.1 Honeybees are more beneficial to man than are lice, locusts, or termites.

UNADJ EFFECT	-1.8	-7.1	8.8	1.3	4.2	-4.8	-17.1	-30.5	9.7	-6.3	2.3	8.7	1.0	5.6	-27.3	-21.2	-11.8	-5.3	0.6	7.8	-6.2
STD ERROR	2.7	3.4	2.5	3.4	1.1	1.3	6.3	5.6	3.6	3.5	3.3	2.5	3.4	1.0	3.2	5.8	5.4	5.1	1.9	1.6	1.5
BAL EFFECT	-4.5	-5.6	4.0	4.3	3.9	-4.5	-9.1	-16.6	5.7	-5.0	-0.9	7.8	-0.1	4.0	-17.9	-17.2	-8.5	-0.8	0.8	5.0	-4.7
STD ERROR	2.4	2.9	2.0	2.6	1.1	1.1	5.6	5.2	3.2	3.9	3.0	2.1	2.6	0.9	3.8	5.1	4.4	4.8	1.8	1.4	1.3

EXER: R123 NATL % 66.9 Scientists study fossils to determine what type of animals lived long ago.

UNADJ EFFECT	4.2	-22.5	8.2	2.8	3.0	-3.1	-11.1	-34.3	15.1	-9.5	16.7	-3.7	-2.8	7.1	-34.7	-20.9	-19.9	-11.9	5.2	9.9	-8.0
STD ERROR	2.7	3.4	2.5	2.6	1.1	1.1	5.6	6.1	5.1	5.5	2.7	3.4	3.6	0.[illegible]	3.7	4.1	5.1	4.7	2.3	1.8	2.0
BAL EFFECT	0.2	-16.6	7.8	2.9	2.8	-2.9	-6.0	-17.9	15.1	-9.3	8.3	-4.8	-0.3	4.6	-22.2	-13.9	-13.3	-5.6	3.7	6.5	-5.7
STD ERROR	2.6	3.6	2.4	2.3	0.9	1.0	4.2	6.8	4.0	4.4	2.9	2.9	3.0	0.8	3.6	4.1	4.3	4.8	1.9	1.5	1.7

EXER: R124 NATL % 63.2 Proper connection of a bulb to a flashlight battery.

UNADJ EFFECT	1.1	-2.9	2.6	-1.8	6.3	-6.5	-1.8	-19.8	8.6	-4.7	3.2	0.7	-1.4	3.4	-13.9	-18.4	-9.0	-2.1	1.3	5.2	-5.4
STD ERROR	2.1	2.1	1.8	2.1	1.2	1.3	4.0	5.1	3.2	4.0	2.4	2.3	2.1	0.6	2.7	3.5	5.7	4.4	2.2	1.3	1.6
BAL EFFECT	-0.0	-1.6	1.3	-0.2	6.3	-6.6	-0.5	-9.6	5.2	-2.9	2.2	-0.0	-1.6	2.6	-17.9	-13.3	-3.1	0.6	1.9	3.1	-4.5
STD ERROR	2.1	2.3	1.9	1.7	1.2	1.3	2.9	5.3	3.4	3.9	2.4	2.5	2.0	0.6	2.8	1.9	5.8	4.5	2.1	1.3	1.5

EXER: R125 NATL % 61.5 Most land plants get most of their water directly from the soil.

UNADJ EFFECT	4.0	-4.2	-1.6	1.8	-1.0	1.1	-6.3	-26.4	10.7	-9.3	-0.8	5.5	1.8	3.6	-19.2	-11.0	-9.0	-1.8	1.0	6.2	-6.4
STD ERROR	2.5	3.4	2.4	2.2	1.2	1.2	5.5	4.1	3.9	4.7	2.6	2.5	2.4	0.7	3.7	4.7	5.2	5.2	2.3	1.3	1.7
BAL EFFECT	3.7	-4.3	-2.2	2.9	-1.2	1.2	-1.9	-19.1	6.7	-8.8	-2.4	5.2	2.5	2.2	-12.6	-4.0	-5.4	-1.6	1.6	4.4	-5.3
STD ERROR	2.4	3.0	2.3	2.4	1.2	1.3	5.4	3.9	4.3	4.7	2.5	2.3	2.4	0.6	3.4	4.8	5.1	4.9	1.9	1.4	1.7

EXER: R126 NATL % 59.4 Most scientists think the center of the earth is very hot.

UNADJ EFFECT	8.4	-5.0	-3.5	-0.3	3.1	-3.6	-17.9	-18.9	10.2	-3.9	4.0	3.3	-1.7	3.7	-20.5	-8.9	0.7	-9.4	-3.6	5.8	-1.4
STD ERROR	2.1	3.2	2.4	2.5	1.3	1.5	7.0	3.8	3.7	3.4	2.5	2.9	2.8	0.7	3.4	3.8	5.2	4.3	2.3	1.9	1.3
BAL EFFECT	5.0	0.5	-5.1	0.8	2.9	-3.4	-14.7	-7.3	5.5	-1.2	2.1	3.3	-2.1	3.0	-16.5	-8.1	3.4	-6.8	-2.3	3.3	-0.9
STD ERROR	2.2	3.1	2.4	2.4	1.4	1.6	10.7	4.9	3.2	3.5	2.5	3.0	2.7	0.9	5.9	4.1	4.6	4.6	2.2	1.8	1.8

EXER: R127 NATL % 60.1 The sun and a penny are both made of atoms.

UNADJ EFFECT	3.4	-7.3	4.8	-4.0	-0.8	1.0	-9.1	-16.0	9.3	-7.1	5.2	2.6	-4.0	3.7	-17.4	-15.1	-10.3	-5.2	4.3	8.3	-8.2
STD ERROR	2.7	3.0	2.8	3.0	1.2	1.4	6.4	3.1	3.5	5.8	3.1	2.7	2.8	0.7	2.8	5.0	5.5	3.8	2.5	2.0	2.2
BAL EFFECT	1.0	-3.3	2.8	-2.1	-1.4	1.6	-4.5	-4.2	4.8	-3.0	3.0	3.0	-5.6	2.7	-13.6	-9.6	-7.5	-2.8	4.6	6.4	-7.5
STD ERROR	2.4	3.0	2.6	3.0	1.1	1.3	5.6	2.9	3.4	5.1	2.7	2.5	2.9	0.7	3.0	4.8	5.1	3.7	2.4	1.7	2.1

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME APP.SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: R128 NATL % 55.2 The sun is a star.																					
UNADJ EFFECT	10.9	-12.0	1.4	-2.1	3.8	-3.9	-3.7	-15.7	16.7	-1.7	5.1	-3.9	-6.3	3.1	-15.9	-9.6	-21.5	-8.3	-0.0	6.8	-3.9
STD ERROR	3.1	3.4	3.0	2.6	1.3	1.3	5.6	4.2	4.0	6.0	3.9	4.0	3.2	0.8	4.4	4.6	4.8	4.7	2.4	1.7	1.9
BAL EFFECT	9.9	-10.6	1.1	-2.1	3.4	-3.6	0.2	-11.0	13.9	-2.0	2.1	-3.8	-4.3	1.3	-7.8	-2.1	-14.0	-3.4	1.1	4.6	-3.7
STD ERROR	3.4	2.7	3.1	2.7	1.3	1.4	6.9	4.4	4.2	5.7	3.6	3.4	3.1	0.7	3.9	4.9	4.8	5.1	2.5	1.7	1.8
EXER: R129 NATL % 54.7 Read a thermometer and dress accordingly.																					
UNADJ EFFECT	4.7	-10.1	5.8	-2.5	1.4	-1.4	-18.4	-15.6	8.1	-1.9	-2.3	2.8	5.6	3.0	-18.4	-13.3	-6.4	-7.2	-0.4	5.8	-4.1
STD ERROR	2.5	3.4	2.4	2.6	1.3	1.3	7.0	5.7	3.7	3.0	2.8	2.6	2.9	0.7	3.1	5.5	7.1	6.0	1.9	1.6	1.7
BAL EFFECT	3.7	-10.3	7.3	-2.9	1.1	-1.2	-15.6	-8.8	8.2	-1.5	-5.0	2.2	5.3	1.9	-11.8	-8.3	-1.8	-2.0	-0.3	3.8	-3.4
STD ERROR	2.1	2.5	1.9	2.5	1.3	1.3	4.7	5.5	3.4	3.5	2.7	2.3	2.3	0.6	3.0	5.4	8.0	5.2	1.8	1.5	1.6
EXER: R130 NATL % 51.0 The most comfortable temperature for a school room is about 70 degrees.																					
UNADJ EFFECT	4.4	-14.2	7.7	-1.7	0.9	-0.9	-6.1	-27.2	16.9	-0.0	6.1	-3.1	-3.5	5.2	-24.0	-16.0	0.8	-12.6	2.9	10.0	-8.7
STD ERROR	2.7	3.2	2.6	2.6	1.2	1.2	7.6	4.6	5.9	5.1	2.6	2.6	3.8	1.0	3.5	4.1	5.8	5.5	2.3	2.0	1.8
BAL EFFECT	2.2	-9.7	6.5	-1.9	-0.0	0.0	-0.4	-12.3	13.8	-0.4	1.2	-2.5	-2.3	3.6	-15.7	-13.5	6.2	-10.1	3.3	7.1	-7.6
STD ERROR	2.6	3.4	2.3	2.4	1.2	1.2	5.4	4.9	4.5	4.7	2.5	2.4	3.6	0.9	3.9	4.6	5.1	5.3	2.1	1.7	1.6
EXER: R131 NATL % 51.3 Cactus plants survive on the desert because they lose little water through their leaves.																					
UNADJ EFFECT	1.5	-1.1	0.2	-0.9	1.2	-1.3	-15.8	-25.0	9.1	-9.7	-0.1	6.9	5.5	5.5	-23.7	-25.1	-6.3	-11.5	2.9	9.6	-9.6
STD ERROR	2.4	3.5	2.8	3.2	1.0	1.1	6.7	5.9	3.3	4.6	3.0	3.1	3.2	0.9	3.3	3.4	5.4	4.5	2.2	1.8	1.8
BAL EFFECT	-1.1	-0.3	-1.0	2.4	1.0	-1.2	-8.4	-9.0	4.0	-7.7	-2.5	4.9	4.4	4.2	-17.4	-20.2	-3.5	-8.1	3.1	7.1	-8.2
STD ERROR	2.0	3.1	2.4	2.4	0.9	1.0	4.7	5.5	3.0	4.9	2.8	3.0	2.6	0.8	4.0	3.1	5.1	4.1	2.2	1.8	1.8
EXER: R132 NATL % 48.7 A different substance is formed when a candle burns.																					
UNADJ EFFECT	3.0	-9.6	1.0	2.7	3.5	-3.9	-19.8	-15.8	10.9	-5.2	5.5	0.3	1.7	4.0	-17.7	-17.4	-14.4	-15.3	0.8	8.3	-4.7
STD ERROR	2.8	3.6	2.8	3.3	1.1	1.2	5.0	5.9	4.5	5.3	3.3	3.5	3.9	1.0	3.1	6.5	4.6	4.8	2.4	1.7	2.1
BAL EFFECT	-0.0	-6.6	-0.7	5.6	3.3	-3.8	-11.3	-6.0	7.0	-6.4	2.9	0.1	1.4	2.6	-9.8	-14.6	-11.5	-11.2	1.8	5.9	-4.0
STD ERROR	2.9	3.7	2.8	2.6	1.0	1.2	4.5	5.7	4.6	4.9	3.4	3.3	3.3	0.9	3.6	6.0	4.4	5.0	2.4	1.7	1.8
EXER: R133 NATL % 46.2 In a scientific study all conditions other than those being purposely manipulated should be kept constant																					
UNADJ EFFECT	6.2	-11.2	3.4	-1.7	2.5	-2.9	-15.0	-14.7	8.0	5.6	0.2	0.6	1.0	2.6	-11.1	-11.6	-1.4	-10.8	-1.0	9.3	-5.9
STD ERROR	1.5	1.8	1.9	1.9	1.2	1.4	3.1	2.5	3.2	4.8	1.8	2.4	2.0	0.6	3.2	4.0	5.0	3.6	2.6	1.8	1.9
BAL EFFECT	4.6	-8.8	2.3	-0.4	2.0	-2.4	-7.9	-7.4	3.5	7.1	-3.0	1.5	1.6	1.6	-5.1	-9.9	2.4	-7.1	-1.2	7.6	-5.5
STD ERROR	1.6	1.9	2.0	2.2	1.1	1.3	3.4	3.4	2.5	4.1	2.0	2.4	1.9	0.7	3.9	4.2	5.1	3.8	2.5	1.9	1.8
EXER: R134 NATL % 46.0 Houseflies can spread serious human disease.																					
UNADJ EFFECT	-3.4	-2.2	2.6	2.4	1.8	-2.1	-6.8	-13.0	9.9	-4.6	0.7	2.3	-1.0	2.0	-10.5	-6.0	-9.2	-4.0	-0.2	6.1	-3.5
STD ERROR	2.5	3.3	2.8	2.7	1.2	1.4	5.8	5.7	4.6	4.6	2.9	3.4	2.9	0.7	3.7	4.7	4.3	4.9	2.2	1.6	1.8
BAL EFFECT	-5.4	0.8	1.7	3.2	1.6	-1.8	-5.5	-6.5	7.3	-3.0	-0.2	2.9	-1.9	1.5	-7.5	-5.2	-8.1	-3.6	-0.3	5.0	-2.6
STD ERROR	2.6	3.3	2.8	2.8	1.2	1.5	5.4	6.0	4.6	4.3	2.9	3.4	2.6	0.7	3.8	4.8	4.5	4.7	2.1	1.6	1.7

EXER: R135 NATL % 38.2 A rock broken into three pieces raises the water level in a container the same amount as the whole rock.

UNADJ EFFECT	-4.2	-5.1	5.3	2.1	2.5	-2.9	-3.5	-8.2	5.6	-7.9	3.8	-4.2	3.2	2.0	-8.3	-9.8	-6.9	-5.1	-1.2	7.2	-4.0
STD ERROR	2.4	2.5	2.0	2.4	1.0	1.2	7.6	4.4	3.3	4.7	2.6	2.1	1.0	0.7	3.3	5.3	4.6	4.6	2.5	1.6	1.8
BAL EFFECT	-5.5	-1.9	4.1	4.4	2.3	-2.6	-0.0	-2.1	2.7	-6.9	2.0	-3.3	3.0	1.5	-4.7	-9.4	-5.3	-3.7	-2.1	6.0	-2.8
STD ERROR	2.1	2.2	1.8	2.3	1.1	1.2	6.5	5.0	3.5	4.2	2.7	2.0	2.6	0.7	3.7	5.3	4.8	4.5	2.4	1.6	1.7

EXER: R136 NATL % 36.1 All matter takes up space.

UNADJ EFFECT	5.2	-5.1	-0.2	-1.0	1.2	-1.3	-10.7	-9.9	12.2	-9.1	6.9	-3.1	-2.0	2.4	-10.5	-10.3	-6.2	-2.9	-1.7	9.6	-6.5
STD ERROR	2.8	2.9	2.8	3.4	1.2	1.4	5.3	3.3	5.9	4.5	2.9	3.3	3.9	0.7	3.0	4.1	3.5	3.6	2.5	2.0	1.8
BAL EFFECT	3.0	-1.9	-1.7	0.6	0.8	-0.9	-7.3	-3.4	8.4	-6.9	5.4	-2.7	-2.3	1.4	-5.7	-6.6	-3.6	0.2	-0.7	7.3	-6.0
STD ERROR	2.5	3.0	2.8	3.4	1.0	1.2	4.8	3.3	5.5	4.3	2.8	3.1	3.7	0.6	2.8	4.2	3.4	3.4	2.3	1.9	1.7

EXER: R137 NATL % 33.9 A quart of mercury weighs more than a quart or air, sawdust, or water.

UNADJ EFFECT	1.2	-3.2	-0.6	1.9	2.1	-2.2	4.6	0.9	2.4	1.6	-4.3	3.8	-5.0	0.7	-6.5	4.2	5.9	11.2	-0.6	1.7	-3.7
STD ERROR	3.0	3.4	2.7	2.6	1.3	1.3	4.7	4.9	5.5	3.7	4.1	2.6	3.4	0.6	3.0	3.6	4.6	4.3	2.6	1.6	1.8
BAL EFFECT	1.4	-3.6	-0.5	1.9	2.1	-2.1	5.2	4.2	2.0	2.4	-5.7	3.9	-5.0	1.0	-6.9	1.0	6.6	12.6	-0.4	1.4	-3.8
STD ERROR	3.1	3.4	2.6	2.8	1.3	1.3	5.0	5.1	5.1	3.6	4.1	2.6	3.3	0.5	3.1	4.1	4.6	4.1	2.4	1.6	1.6

EXER: R138 NATL % 35.2 After a cold front passes, it is common to have clearing skies.

UNADJ EFFECT	1.1	3.1	-5.5	2.6	1.6	-1.8	-1.0	-10.7	3.0	-1.0	0.1	1.2	1.2	2.0	-14.3	-0.2	-0.6	5.9	2.9	1.1	-4.7
STD ERROR	2.2	2.7	1.9	2.2	1.1	1.3	4.5	2.8	3.3	3.9	2.6	2.6	3.1	0.5	2.2	4.5	5.1	5.3	2.2	1.7	1.8
BAL EFFECT	-0.0	4.9	-5.7	2.6	1.6	-1.8	-0.5	-0.8	1.2	-0.6	0.4	-0.5	0.1	2.1	-14.4	-2.0	-1.0	5.5	3.2	0.2	-3.7
STD ERROR	2.2	2.5	1.9	2.4	1.2	1.3	4.6	3.4	3.1	3.8	2.5	2.3	2.8	0.6	2.7	5.1	5.5	5.3	2.2	1.7	1.8

EXER: R139 NATL % 28.2 Rock cannot indefinitely be broken into smaller and smaller pieces and still be rock.

UNADJ EFFECT	4.2	-3.1	-0.9	-0.8	2.4	-2.4	0.3	-14.1	6.4	-3.8	1.2	3.8	-1.9	2.6	-14.0	-3.2	-12.9	3.9	-2.7	8.2	-5.9
STD ERROR	1.8	3.2	2.0	2.4	1.3	1.2	5.3	2.7	3.2	3.8	2.2	2.5	2.6	0.5	2.3	3.4	4.0	5.1	2.1	1.7	1.7
BAL EFFECT	4.1	-1.5	-1.1	-1.7	2.2	-2.1	2.5	-6.1	2.0	-4.4	-0.1	3.4	-1.8	1.8	-10.9	0.4	-11.7	3.9	-3.1	7.7	-5.3
STD ERROR	1.8	2.9	1.9	2.5	1.3	1.2	5.3	3.0	3.5	3.7	2.2	2.3	2.6	0.6	2.5	3.7	3.9	5.3	2.1	1.7	1.8

EXER: R140 NATL % 14.3 Coal is formed from dead plants.

UNADJ EFFECT	-3.3	9.8	-2.3	-2.6	3.0	-2.9	3.3	4.5	-6.2	-8.0	4.5	0.7	-2.2	-0.3	4.0	-4.8	-1.7	-0.2	-0.8	2.8	-1.6
STD ERROR	2.1	3.3	2.0	1.9	0.8	0.8	4.0	3.1	3.7	2.5	3.1	2.1	2.5	0.5	2.8	2.5	3.3	3.5	1.5	1.5	1.2
BAL EFFECT	-2.6	10.1	-3.4	-2.1	2.7	-2.6	2.4	5.6	-5.9	-5.2	5.3	-0.0	-3.6	0.2	-0.2	-2.6	-3.9	-0.2	-1.3	3.1	-1.2
STD ERROR	2.3	3.5	2.0	1.8	0.9	0.8	5.3	3.5	3.7	2.5	2.8	2.0	2.6	0.5	3.1	2.5	3.4	3.4	1.5	1.4	1.2

EXER: R141 NATL % 7.1 The mixing of equal quantities of water at 70 degrees F and water at 50 degrees F yields a mixture at 60 degrees F.

UNADJ EFFECT	1.8	-2.8	0.6	0.0	1.1	-1.2	0.3	0.3	3.3	-2.0	0.0	-0.7	-0.5	0.0	1.6	-2.9	0.7	-1.1	-0.6	-0.6	1.1
STD ERROR	1.3	1.2	1.2	1.3	0.6	0.7	2.3	2.1	1.8	1.1	1.2	1.4	1.4	0.2	1.9	1.9	2.7	2.4	1.1	0.8	0.9
BAL EFFECT	1.8	-3.4	0.7	0.4	1.1	-1.2	1.2	-0.4	3.8	-2.7	-0.5	-0.9	0.2	-0.0	2.2	-3.1	1.2	-0.1	-0.4	-0.9	1.1
STD ERROR	1.2	1.1	1.3	1.5	0.6	0.7	1.9	2.5	1.8	1.2	1.3	1.4	1.4	0.3	2.3	2.3	2.9	2.4	1.1	0.8	0.8

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
OBJECTIVE: Possess the ability and skills needed to engage in the processes of science.																					
EXER: R142 NATL % 96.7 Balance one weight by hanging a second weight on a beam balance.																					
UNADJ EFFECT	-2.1	0.2	1.6	-0.0	-0.0	0.0	-2.7	-0.7	1.3	-0.6	2.4	-0.9	-0.9	0.3	-0.6	-2.7	2.2	2.1	-0.7	0.3	-0.6
STD ERROR	1.3	1.0	0.7	0.9	0.4	0.4	2.4	1.6	1.3	1.9	0.6	1.3	1.1	0.2	1.3	2.3	1.2	0.8	0.8	0.5	0.8
BAL EFFECT	-2.6	0.7	1.7	0.0	-0.2	0.2	-3.8	0.2	1.8	-0.1	2.5	-0.9	-1.3	0.3	-0.3	-2.8	2.8	2.2	-0.6	0.1	-0.5
STD ERROR	1.4	1.2	0.7	0.9	0.4	0.4	2.3	1.9	1.4	1.9	0.8	1.3	1.0	0.3	1.6	2.2	1.4	0.7	0.8	0.5	0.8
EXER: R144 NATL % 90.4 Select the leaf that gives off the most water knowing that big leaves give off the most water.																					
UNADJ EFFECT	0.1	-5.5	2.5	1.1	0.3	-0.3	-8.5	-6.0	3.4	3.0	4.4	-1.6	-0.3	1.6	-7.0	-6.6	-5.9	-2.5	0.8	3.3	-2.3
STD ERROR	1.7	1.7	1.3	1.3	0.8	0.9	3.9	2.6	2.1	1.6	1.4	1.6	1.7	0.5	2.8	2.2	3.8	2.7	0.9	1.0	1.0
BAL EFFECT	-1.4	-3.6	2.5	1.1	0.3	-0.3	-7.8	-1.6	3.7	3.3	2.4	-1.8	0.1	1.1	-4.3	-5.9	-3.5	-0.4	0.6	2.4	-2.1
STD ERROR	1.6	2.0	1.2	1.1	0.8	0.8	3.9	3.3	1.9	2.1	1.4	1.6	1.6	0.6	3.1	2.2	3.8	3.0	0.9	1.0	0.9
EXER: R145 NATL % 81.3 Given a table listing the weights of several elements in the human body, choose the most common element (oxygen).																					
UNADJ EFFECT	1.7	-5.6	2.8	0.2	-1.9	2.0	-4.9	-17.7	6.7	0.1	-1.8	0.6	3.8	2.7	-19.1	-7.2	-11.4	-5.7	3.2	7.0	-7.6
STD ERROR	1.8	2.5	1.6	1.7	0.9	1.0	7.6	4.4	2.3	2.6	2.4	2.2	1.7	0.6	3.9	3.2	5.5	4.0	1.6	1.4	1.3
BAL EFFECT	2.0	-5.8	2.9	-0.9	-2.0	2.1	-1.9	-9.5	5.0	1.4	-3.7	0.1	2.9	1.8	-13.4	-4.3	-8.9	-2.8	3.1	5.8	-7.0
STD ERROR	1.5	1.9	1.5	1.5	0.9	1.0	6.4	4.4	2.0	2.7	1.8	2.0	1.5	0.6	4.2	3.3	5.1	3.7	1.6	1.3	1.2
EXER: R146 NATL % 75.8 Identify what needs to be done in order to fix a flat bicycle tire.																					
UNADJ EFFECT	5.4	-9.2	4.1	-3.5	1.9	-2.2	-15.1	-31.2	13.1	-3.5	2.9	2.8	0.8	4.5	-18.8	-22.2	-16.9	-6.8	2.9	9.3	-6.9
STD ERROR	1.8	3.7	1.9	2.9	0.9	1.0	10.4	4.3	2.2	4.7	2.3	2.3	2.4	0.8	2.9	5.4	4.8	3.5	1.8	1.4	1.6
BAL EFFECT	2.7	-5.5	1.8	-0.7	1.4	-1.6	-8.7	-20.0	8.0	0.2	0.1	3.4	-0.1	2.8	-9.9	-16.5	-13.2	-3.5	2.6	6.7	-5.4
STD ERROR	1.5	2.7	1.8	2.3	0.9	1.0	8.9	4.1	2.2	3.4	1.9	2.1	2.5	0.8	3.2	5.2	4.5	3.9	1.8	1.3	1.6
EXER: R147 NATL % 68.9 Choose the best way of verifying someone's recipe for making salt-water taffy.																					
UNADJ EFFECT	0.4	-8.2	7.5	-1.6	-0.4	0.4	-2.1	-27.9	4.2	1.1	4.4	0.1	1.7	4.5	-26.1	-11.4	-5.6	0.9	-3.5	11.4	-10.9
STD ERROR	2.0	3.8	2.6	2.4	1.0	1.0	6.8	5.8	2.9	4.1	3.0	2.3	3.0	0.8	3.6	3.3	4.8	4.0	2.4	1.4	1.7
BAL EFFECT	-1.2	-4.4	5.8	-1.4	-0.8	0.8	0.0	-13.6	-1.2	2.8	2.9	0.1	-0.1	3.3	-19.2	-7.7	-1.4	3.9	-4.2	10.0	-9.8
STD ERROR	1.9	3.0	2.5	2.1	1.0	1.0	5.8	5.9	3.1	3.0	3.2	2.0	2.6	0.7	3.8	3.8	5.0	3.9	2.1	1.3	1.7
EXER: R148 NATL % 66.9 Conclude from a data table the fact that young people generally breathe faster than older people.																					
UNADJ EFFECT	5.6	-1.0	-3.1	-1.5	-2.1	2.2	-16.3	-16.0	11.2	-3.4	2.3	2.1	1.2	2.4	-11.7	-14.3	-8.9	-11.0	2.3	6.9	-6.4
STD ERROR	2.3	2.9	2.3	2.6	1.2	1.3	4.6	3.7	3.2	3.4	3.1	2.7	2.3	0.5	3.6	3.6	5.5	6.8	2.0	1.9	1.8
BAL EFFECT	4.3	-0.6	-2.6	-1.2	-2.2	2.3	-13.3	-8.6	8.5	-1.2	1.6	0.6	0.8	1.5	-6.8	-9.7	-3.9	-8.1	2.8	5.3	-6.1
STD ERROR	2.1	2.6	2.0	2.5	1.2	1.2	5.7	3.9	3.3	3.3	2.9	2.4	2.2	0.5	3.8	4.0	5.5	6.0	2.1	2.0	1.7
EXER: R149 NATL % 64.9 Read a table of data showing temperatures at different times of a day.																					
UNADJ EFFECT	4.6	-5.1	3.3	-4.3	-2.5	2.6	0.5	-29.1	10.1	-6.2	4.1	0.3	-0.6	4.6	-24.0	-13.8	-23.6	1.1	1.6	6.9	-6.2
STD ERROR	2.3	3.2	2.1	2.7	1.2	1.2	5.8	4.3	2.6	4.0	2.4	3.0	3.0	0.9	3.2	3.8	4.4	4.7	2.6	1.7	2.0
BAL EFFECT	4.1	-3.1	1.2	-2.9	-2.6	2.7	3.9	-18.1	5.4	-5.0	1.8	-0.5	0.6	2.9	-17.7	-3.4	-19.1	0.4	1.8	5.4	-5.1
STD ERROR	2.0	2.3	2.1	2.1	1.1	1.2	3.5	4.1	2.8	3.9	2.3	2.6	2.6	0.8	3.0	3.9	4.3	4.6	2.2	1.6	1.9

EXER: R150 NATL % 55.9 Given a table listing the weights of several elements in the human body, choose the least common element.

UNADJ EFFECT	1.9	-9.2	5.7	-0.0	-4.8	4.7	-8.0	-25.9	11.6	1.2	-5.8	1.6	6.7	4.1	-29.9	-11.1	-10.8	-11.7	-0.3	9.9	-7.3
STD ERROR	3.0	3.3	2.9	2.6	1.2	1.3	9.4	5.7	4.1	4.6	4.7	2.8	2.5	0.8	3.5	4.0	5.9	5.7	2.3	1.8	1.8
BAL EFFECT	2.1	-9.7	6.6	-0.9	-4.7	5.0	-3.7	-13.9	8.5	2.4	-9.1	1.4	5.4	2.9	-20.6	-7.2	-6.7	-6.8	-0.9	8.2	-6.3
STD ERROR	2.5	2.5	2.5	2.3	1.1	1.2	6.7	4.5	3.8	4.4	3.7	2.6	2.1	0.7	3.6	3.8	5.3	5.0	2.3	1.8	1.7

EXER: R151 NATL % 54.4 Given information about the height of a plant for successive weeks, select the graph which accurately displays its growth.

UNADJ EFFECT	3.5	-5.1	-0.7	1.7	3.1	-3.2	-11.1	-11.1	10.8	-1.0	-0.0	1.5	1.5	3.3	-20.4	-6.2	-1.5	-0.0	-2.4	6.7	-6.3
STD ERROR	2.5	3.2	2.9	3.0	1.3	1.3	4.9	3.6	3.6	4.5	3.8	2.6	3.1	0.8	3.7	5.7	5.1	4.7	2.8	1.6	1.8
BAL EFFECT	2.2	-2.1	-1.8	1.8	2.8	-2.8	-7.7	0.7	6.6	0.8	-1.9	0.8	0.4	3.0	-18.0	-6.1	2.1	2.6	-1.5	5.0	-5.8
STD ERROR	2.3	2.3	2.8	2.6	1.3	1.3	3.8	4.3	3.3	4.3	3.9	2.1	3.0	0.8	3.4	5.7	4.8	4.3	2.6	1.5	1.7

EXER: R152 NATL % 53.1 Recognize vaccination as the reason that so few people get smallpox.

UNADJ EFFECT	2.6	-0.5	2.0	-5.4	-3.0	3.5	-15.1	-22.5	13.7	-8.3	1.6	1.9	2.8	5.1	-22.8	-22.3	-8.6	-8.3	0.1	10.1	-6.8
STD ERROR	2.5	3.8	3.3	2.7	1.3	1.5	8.1	4.3	4.5	4.7	3.6	2.9	3.7	0.9	3.8	4.2	4.9	5.3	2.2	1.7	1.6
BAL EFFECT	-1.2	4.9	-0.0	-3.1	-3.4	4.0	-12.9	-6.9	8.0	-1.5	-0.3	2.3	0.1	4.2	-20.3	-15.6	-6.4	-7.6	-0.2	8.2	-5.7
STD ERROR	2.4	3.2	3.1	2.3	1.3	1.4	7.2	5.3	4.3	4.0	3.5	2.6	3.7	0.9	4.1	4.2	4.5	5.2	2.2	1.5	1.6

EXER: R153 NATL % 38.1 Identify a reasonable explanation as to why water does not come out of a faucet.

UNADJ EFFECT	9.6	-4.9	-1.9	-3.6	-2.0	1.9	-10.9	-20.1	20.3	-3.7	2.4	2.8	-1.3	4.2	-16.2	-19.2	-10.1	0.7	-1.0	9.1	-7.9
STD ERROR	2.6	3.0	2.0	2.1	1.4	1.4	4.5	3.0	3.8	3.5	2.2	2.5	2.5	0.7	3.0	2.9	4.4	5.7	2.5	1.7	2.0
BAL EFFECT	8.0	-2.9	-1.8	-3.7	-2.4	2.3	-7.1	-8.3	14.5	-4.0	0.5	1.8	-1.4	2.9	-11.3	-13.1	-5.0	4.1	-0.8	7.9	-8.0
STD ERROR	2.1	2.5	1.6	1.8	1.4	1.3	4.5	4.1	3.4	3.1	1.9	2.1	2.1	0.7	3.3	3.2	4.4	5.5	2.2	1.7	2.0

EXER: R154 NATL % 16.7 Infer that water would freeze at 32 degrees F when given the fact that ice melts at 32 degrees F.

UNADJ EFFECT	2.2	2.3	-2.5	-0.9	3.9	-4.0	-3.8	-4.7	2.0	-0.7	4.9	-4.3	2.5	0.7	-3.5	-1.8	-0.5	-2.1	-0.8	3.3	-1.9
STD ERROR	2.0	2.4	2.4	1.9	1.0	1.1	4.6	2.7	3.3	3.6	3.3	2.0	2.5	0.4	2.0	2.7	4.1	3.0	1.5	1.3	1.4
BAL EFFECT	1.5	4.9	-3.3	-1.2	3.8	-4.0	-3.3	-2.8	-0.3	0.4	5.6	-4.5	2.1	0.5	-3.7	1.4	-1.0	-3.2	-1.2	3.5	-1.5
STD ERROR	2.0	2.5	2.2	1.9	1.0	1.0	4.7	3.0	3.2	3.5	3.1	2.0	2.5	0.4	1.8	2.8	4.0	3.7	1.5	1.2	1.3

OBJECTIVE: Understand the investigative nature of science.

EXER: R155 NATL % 92.7 Recognize that observation is a basic characteristic of scientific experiments.

UNADJ EFFECT	2.9	-1.8	2.6	-4.3	0.2	-0.2	-15.2	-6.9	5.3	-2.4	1.4	0.7	3.4	3.4	-12.1	-19.2	-5.1	-4.6	0.5	3.9	-2.2
STD ERROR	1.3	1.6	1.2	2.4	0.6	0.6	8.4	2.9	1.3	1.8	1.8	1.5	1.2	0.9	2.4	7.4	2.7	4.5	1.0	0.8	1.2
BAL EFFECT	0.7	0.5	1.5	-2.6	-0.0	0.0	-10.2	2.9	1.9	0.0	-0.4	-0.7	2.8	2.9	-11.6	-14.9	-2.3	-4.5	0.7	2.4	-2.0
STD ERROR	1.1	1.6	0.9	1.3	0.5	0.6	6.1	3.1	1.1	1.8	1.5	1.1	0.9	0.8	2.5	5.8	2.6	3.2	1.0	0.7	1.0

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME APP.SUB.	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: 0156 NATL % 79.6	Recognize that phenomena are amenable to scientific inquiry even where a rational explanation is not immediately available.																				
UNADJ EFFECT	3.1	-11.9	2.3	4.6	-1.1	1.2	-13.6	-22.5	6.2	0.6	5.0	3.0	0.2	4.6	-24.8	-9.4	-11.1	0.1	0.4	6.7	-8.5
STD ERROR	1.9	2.5	1.9	1.5	0.9	1.0	4.4	4.7	1.4	1.9	2.4	2.0	2.1	0.7	2.8	3.4	4.2	1.6	1.5	1.1	1.4
BAL EFFECT	0.1	-10.2	2.7	3.7	-0.9	1.0	-9.2	-11.7	5.2	1.4	0.1	2.1	1.1	3.1	-17.4	-6.9	-8.5	5.0	-0.3	4.7	-1.6
STD ERROR	1.9	2.2	1.9	1.5	0.9	1.0	3.5	4.6	2.2	1.7	2.6	1.9	1.8	0.6	2.5	3.5	4.0	1.4	1.4	1.2	1.3
EXER: 0157 NATL % 39.4	Recognize that the statement "My dog is better than your dog" is not a scientifically testable statement.																				
UNADJ EFFECT	-1.0	-2.4	1.0	-0.7	0.8	-0.8	9.7	-16.9	8.5	-12.3	-0.3	2.7	-2.1	3.2	-18.5	-15.0	-16.8	-5.8	0.1	6.0	-4.1
STD ERROR	2.9	3.5	2.8	3.5	1.1	1.3	10.2	4.0	5.4	4.1	3.8	1.6	3.2	0.8	3.8	3.4	5.7	5.2	1.9	1.6	1.9
BAL EFFECT	-1.4	-2.4	1.4	1.8	0.6	-0.6	12.1	-7.2	4.4	-11.6	-1.7	2.2	-1.6	2.5	-12.2	-9.7	-11.0	-5.1	0.2	4.6	-3.1
STD ERROR	3.0	3.4	2.8	3.1	1.3	1.3	4.5	4.6	5.8	3.8	4.0	3.1	3.1	0.8	4.2	3.7	5.2	5.1	1.9	1.5	1.9
EXER: 0158 NATL % 23.0	Recognize a simple definition of a scientific theory.																				
UNADJ EFFECT	2.8	-3.1	1.3	-1.6	3.1	-3.1	-8.2	-6.9	12.4	-1.9	5.4	-4.2	-0.5	1.1	-5.2	-4.4	-13.3	-0.7	-0.2	3.1	-1.7
STD ERROR	2.8	2.1	2.0	2.4	1.2	1.2	3.8	2.2	3.9	3.4	3.1	1.9	2.5	0.5	2.4	3.2	2.9	3.6	2.6	1.8	1.6
BAL EFFECT	1.6	-0.4	1.0	-2.5	3.0	-3.0	-7.4	-5.2	11.1	-1.8	5.4	-4.4	-0.6	0.1	-1.2	0.2	-11.3	1.2	-0.1	2.3	-1.8
STD ERROR	2.6	2.1	1.9	2.4	1.2	1.2	3.8	3.0	3.8	3.4	3.0	2.1	2.4	0.5	2.9	3.2	2.9	3.4	2.4	1.8	1.5
EXER: 0159 NATL % 23.0	Select from among five alternatives the one which has the least to do with a scientific description of an apple.																				
UNADJ EFFECT	-1.6	-4.9	3.4	1.2	-0.5	0.5	-0.6	-15.1	11.7	-3.1	3.1	-3.4	-0.5	3.3	-11.1	-15.4	-8.4	-11.0	-2.8	11.6	-5.2
STD ERROR	2.0	2.3	1.8	2.0	0.9	0.9	4.7	2.1	3.1	2.7	2.5	1.7	2.3	0.6	2.2	2.1	3.6	4.1	1.9	1.6	1.6
BAL EFFECT	-2.7	-2.1	2.5	1.5	-1.3	1.3	3.7	-3.7	7.5	-1.1	0.0	-3.2	-0.3	2.9	-10.3	-15.4	-5.9	-9.4	-2.6	10.1	-4.7
STD ERROR	1.9	2.3	1.7	1.8	0.8	0.8	3.8	2.1	3.0	2.3	2.1	1.7	1.9	0.6	2.3	2.3	3.7	3.9	2.0	1.7	1.6
OBJECTIVE:	Have attitudes about and appreciation of scientists, science, and the consequences of science that stem from adequate understandings.																				
EXER: 0160 NATL % 74.2	Think that the number thirteen brings bad luck.																				
UNADJ EFFECT	-2.5	2.1	-2.9	4.1	-0.5	0.5	-0.0	0.8	-0.9	4.1	-0.9	-0.9	-0.1	-0.2	-3.4	8.4	7.3	-1.0	-1.6	4.0	-4.7
STD ERROR	2.4	2.3	2.4	2.4	1.2	1.2	5.4	3.3	4.0	4.6	3.6	2.6	2.8	0.6	3.5	3.9	4.2	4.1	1.8	1.4	1.7
BAL EFFECT	-2.5	1.2	-3.0	3.2	-0.6	0.6	-0.8	2.5	-1.7	4.8	-0.3	-1.1	-0.8	0.2	-4.6	5.7	6.5	-1.7	-0.8	4.1	-5.0
STD ERROR	2.6	2.4	2.9	2.6	1.2	1.2	5.4	3.8	4.0	4.5	3.7	2.4	2.8	0.7	3.9	4.0	4.3	4.0	1.8	1.4	1.8
OBJECTIVE:	Know the fundamental facts and principles of science.																				
EXER: 0601 NATL % 95.7	(Text for this exercise was not released)																				
UNADJ EFFECT	1.2	-1.5	-0.4	0.6	-0.2	0.2	-1.6	-8.2	2.4	-0.1	0.3	0.5	0.9	1.1	-7.0	-4.4	-3.5	0.7	0.6	2.3	-2.6
STD ERROR	0.8	1.1	0.9	0.9	0.4	0.5	2.0	2.7	1.0	1.1	1.3	0.9	1.1	0.3	2.2	2.3	2.8	1.6	0.8	0.5	0.8
BAL EFFECT	1.2	-1.7	-0.5	0.9	-0.1	0.3	-0.1	-5.1	1.3	0.8	-0.1	0.1	0.6	0.8	-4.7	-3.8	-2.4	1.7	0.6	1.8	-2.1
STD ERROR	0.8	1.1	0.8	0.8	0.4	0.5	2.0	2.6	0.9	1.1	1.2	0.8	1.0	0.3	2.1	2.3	3.0	1.6	0.8	0.5	0.8

EXER: 0602 WATL % 95.0 (Text for this exercise was not released)

UNADJ EFFECT	1.9	-4.7	1.0	1.0	-0.1	0.1	-6.0	-17.8	4.3	-0.3	2.3	1.8	0.7	2.7	-18.5	-7.8	-4.3	0.5	0.8	2.1	-2.5
STD ERROR	1.1	2.1	0.9	0.9	0.5	0.5	4.5	4.2	0.8	1.3	1.0	0.9	1.3	0.6	3.1	3.6	2.3	1.4	0.9	0.7	0.8
BAL EFFECT	1.2	-1.1	-0.0	1.8	0.0	0.0	-1.6	-11.8	2.1	-0.2	1.2	1.6	0.9	1.9	-10.7	-0.9	-1.7	0.9	1.0	1.0	-1.8
STD ERROR	0.8	1.4	0.7	1.0	0.4	0.5	2.8	1.9	0.7	1.1	0.9	0.7	1.0	0.5	2.1	1.1	2.2	1.8	0.7	0.5	0.7

EXER: 0603 WATL % 95.1 (Text for this exercise was not released)

UNADJ EFFECT	2.3	-5.8	1.1	0.8	-0.4	0.8	0.7	-17.0	2.3	-1.9	2.8	1.8	-0.7	2.6	-12.8	-7.2	-5.7	-3.0	0.1	1.2	-1.6
STD ERROR	0.9	1.4	1.0	0.8	0.4	0.5	1.3	3.5	1.0	2.5	1.0	1.0	1.2	0.5	2.3	3.0	2.8	1.9	0.9	0.7	0.8
BAL EFFECT	1.7	-6.9	0.6	0.6	-0.8	0.8	1.6	-11.3	1.3	-1.8	0.5	1.1	-0.1	1.8	-9.1	-3.8	-8.1	-1.8	-0.7	2.6	-0.8
STD ERROR	0.8	1.4	0.9	0.8	0.4	0.4	1.5	3.6	0.8	2.0	0.9	0.8	0.9	0.8	2.2	2.5	2.4	1.8	0.8	0.6	0.6

EXER: 0604 WATL % 96.8 (Text for this exercise was not released)

UNADJ EFFECT	0.7	-1.8	0.5	2.0	0.4	-0.4	-2.1	-10.1	4.0	-1.6	1.0	-0.6	1.2	1.8	-11.1	-1.0	-5.4	2.8	-0.4	1.5	-1.2
STD ERROR	1.0	1.8	0.9	0.8	0.4	0.4	4.1	5.0	0.9	2.1	1.2	1.2	1.2	0.6	3.0	2.0	2.7	1.4	1.4	0.7	0.9
BAL EFFECT	0.3	-3.8	-0.2	2.5	0.4	-0.5	0.3	-6.1	2.5	-1.8	0.1	-0.8	1.3	1.4	-9.2	-0.8	-3.6	1.2	0.2	0.5	-0.7
STD ERROR	0.9	1.3	0.9	0.9	0.4	0.4	2.6	4.4	0.8	2.1	1.1	1.0	1.1	0.5	2.5	2.3	2.5	1.5	1.1	0.6	0.9

EXER: 0605 WATL % 97.8 (Text for this exercise was not released)

UNADJ EFFECT	1.7	-1.1	2.3	-1.4	0.9	-0.9	-5.4	-15.1	4.1	1.2	3.4	-1.7	2.2	2.9	-11.7	-16.5	-9.9	-3.0	2.1	3.8	-3.5
STD ERROR	1.1	1.5	1.0	1.9	0.5	0.6	4.2	3.9	1.2	1.6	1.0	1.5	1.4	0.5	2.4	3.7	3.3	2.4	1.1	0.7	1.0
BAL EFFECT	-0.0	1.5	0.7	-2.1	0.8	-0.8	-4.0	-7.0	1.4	1.2	2.7	-2.3	0.7	2.3	-4.4	-13.1	-8.0	-1.1	1.6	2.8	-2.7
STD ERROR	1.0	1.3	0.9	1.5	0.6	0.6	3.3	3.6	1.2	1.2	1.0	1.3	1.4	0.5	2.1	3.3	3.1	2.3	1.1	0.6	0.9

EXER: 0606 WATL % 92.2 (Text for this exercise was not released)

UNADJ EFFECT	2.7	-1.2	1.7	-2.1	-1.2	1.2	-4.3	-10.1	4.1	-0.4	3.5	0.4	-0.3	2.9	-7.4	-21.7	-8.7	-7.3	1.0	4.0	-2.6
STD ERROR	1.1	2.0	1.0	1.5	0.7	0.7	4.4	2.6	1.7	2.2	1.2	1.4	1.6	0.5	2.2	3.0	3.6	5.5	1.1	0.7	0.9
BAL EFFECT	1.5	-2.2	0.8	-0.4	-1.3	1.1	-1.7	-1.3	0.7	-0.2	2.1	-0.1	-1.0	2.6	-6.1	-20.5	-5.4	-6.1	1.2	1.8	-2.7
STD ERROR	0.9	1.8	1.0	1.5	0.7	0.7	3.4	2.9	1.6	2.6	1.1	1.3	1.5	0.6	2.5	3.2	3.2	5.5	1.1	0.9	0.9

EXER: 0607 WATL % 91.9 (Text for this exercise was not released)

UNADJ EFFECT	2.8	-8.8	2.2	0.9	2.6	-2.9	-16.1	-16.0	3.7	2.8	3.9	1.6	1.6	3.7	-19.8	-11.0	-4.1	-10.4	-0.5	4.8	-1.7
STD ERROR	1.0	1.9	1.3	1.8	0.7	0.8	5.4	3.9	1.5	1.6	1.2	1.5	1.6	0.7	2.8	4.6	2.8	5.3	1.0	0.9	1.1
BAL EFFECT	0.5	-8.9	1.4	1.5	2.3	-2.6	-9.5	-6.0	0.4	1.0	1.1	1.4	1.1	2.8	-18.9	-8.6	-1.7	-6.8	-0.1	2.6	-1.2
STD ERROR	0.8	1.9	1.1	1.1	0.7	0.8	4.5	3.5	1.4	1.9	1.0	1.4	1.3	0.6	3.2	3.3	3.0	6.2	1.0	0.7	0.8

EXER: 0608 WATL % 91.3 (Text for this exercise was not released)

UNADJ EFFECT	1.5	-7.6	1.8	0.5	-0.0	0.0	-4.3	-21.0	3.5	-0.5	3.7	2.4	-2.1	4.0	-19.7	-18.9	-7.0	0.1	0.2	2.7	-2.4
STD ERROR	1.1	2.1	1.0	1.4	0.6	0.6	5.3	4.2	0.9	2.6	1.4	1.2	1.7	0.7	2.7	3.5	3.6	2.8	1.7	1.0	1.1
BAL EFFECT	0.1	-6.0	2.2	2.5	0.1	-0.1	-1.5	-19.7	4.9	-0.8	0.8	1.8	-1.8	1.1	-15.0	-12.0	-1.7	1.9	1.1	0.7	-1.6
STD ERROR	0.9	1.2	0.8	1.2	0.6	0.6	2.4	3.7	1.1	2.4	1.0	1.0	1.3	0.6	2.2	3.1	3.0	2.3	1.3	0.9	0.8

EXER: 0609 WATL % 88.1 (Text for this exercise was not released)

UNADJ EFFECT	2.6	-7.6	1.4	1.5	-0.1	0.1	0.1	-22.9	5.6	-0.9	1.5	0.4	0.1	0.4	-22.2	-19.8	-4.7	-2.0	4.4	3.1	-4.4
STD ERROR	1.4	2.0	1.4	1.4	0.5	0.6	3.1	4.6	1.7	3.1	1.7	1.5	1.9	0.4	2.7	4.1	4.2	1.0	1.0	1.1	1.0
BAL EFFECT	1.2	-4.5	0.4	1.3	-0.1	0.3	1.8	-11.5	3.9	1.0	-0.3	-0.8	0.4	1.4	-19.1	-7.5	-7.2	0.4	1.3	1.8	-3.1
STD ERROR	1.2	1.5	1.2	1.2	0.5	0.5	2.3	4.4	1.1	2.8	1.4	1.2	1.5	0.6	2.5	4.0	4.3	1.0	0.8	1.0	1.0

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME APP.SUB	INNER SUB.FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: 0610 NATL % 87.7 (Test for this exercise was not released)																					
UNADJ EFFECT	1.7	-1.6	-2.9	3.1	0.9	-0.9	1.8	-6.4	8.0	1.9	-0.3	-2.5	3.0	1.2	-6.5	-1.1	-NUM	3.4	9.2	8.3	-8.7
STD ERROR	1.8	2.2	1.9	1.5	1.0	1.0	2.2	3.1	1.0	2.5	3.0	1.7	1.7	0.5	2.1	3.3	4.5	1.3	2.0	1.8	1.9
BAL EFFECT	2.8	-1.5	-1.4	1.0	0.7	-0.7	3.5	-7.4	0.6	1.6	-0.6	-2.8	3.2	1.0	-4.6	-2.5	-0.2	1.3	0.1	4.0	-4.8
STD ERROR	1.8	1.9	1.7	1.4	1.0	0.9	2.7	3.1	3.9	2.0	2.7	1.6	1.8	0.4	1.9	3.4	4.6	1.2	2.0	1.5	1.9
EXER: 0611 NATL % 87.2 (Test for this exercise was not released)																					
UNADJ EFFECT	2.0	-7.0	3.3	0.1	0.8	-0.8	-8.5	-19.0	7.4	-7.3	5.2	0.8	0.1	4.5	-28.3	-8.2	-3.6	-1.9	1.2	5.6	-9.9
STD ERROR	1.6	2.9	1.5	2.0	0.7	0.7	4.1	4.9	2.4	3.9	1.7	2.2	2.3	0.9	1.5	2.9	4.9	1.2	1.5	1.1	1.1
BAL EFFECT	0.1	-2.8	2.8	-1.0	0.3	-0.3	-3.1	-4.4	5.1	-6.9	1.8	0.6	-0.2	3.9	-21.0	-5.4	-0.9	-0.7	0.9	1.5	-3.8
STD ERROR	1.2	3.0	1.4	1.7	0.7	0.7	6.2	6.5	2.1	3.9	1.5	1.8	1.3	0.8	3.7	3.0	3.6	3.1	1.8	1.1	1.0
EXER: 0612 NATL % 86.6 (Test for this exercise was not released)																					
UNADJ EFFECT	4.0	-5.2	0.3	-3.4	1.5	-1.0	-3.8	-18.2	2.6	1.0	1.1	0.3	3.9	2.8	-11.6	-10.3	-12.9	-2.1	1.4	4.0	-3.2
STD ERROR	1.6	1.9	1.6	1.7	0.8	0.8	4.6	4.3	3.6	2.1	2.0	1.5	1.6	0.6	2.5	2.6	4.4	3.7	1.3	0.9	1.9
BAL EFFECT	4.1	-4.7	-0.8	0.4	0.9	-0.9	-0.5	-7.1	-1.5	0.1	-0.5	-0.1	4.4	2.0	-8.0	-8.0	-13.6	-2.1	1.2	1.4	-2.7
STD ERROR	1.5	1.7	1.5	1.7	0.8	0.8	4.5	4.5	3.2	2.6	1.9	1.3	1.5	0.5	2.5	3.2	4.6	3.7	1.3	1.0	1.9
EXER: 0613 NATL % 81.8 (Test for this exercise was not released)																					
UNADJ EFFECT	-2.8	-5.4	5.4	0.4	2.5	-2.4	-0.7	-18.9	5.4	-7.5	5.4	-3.6	3.1	4.2	-19.4	-12.8	-15.5	-7.5	1.3	5.9	-2.7
STD ERROR	1.6	2.2	1.6	2.2	1.0	0.9	5.5	3.2	3.2	5.3	1.8	2.4	2.0	0.7	3.3	3.9	6.8	4.2	1.7	1.3	1.6
BAL EFFECT	-4.0	-2.2	4.1	1.0	2.1	-2.2	4.1	-6.0	2.5	-4.4	1.9	-1.6	3.3	1.6	-17.0	-10.1	-13.6	-7.1	1.2	3.8	-1.1
STD ERROR	1.6	1.8	1.4	2.2	0.9	0.9	3.7	3.9	2.6	4.3	1.6	2.1	1.8	0.7	3.2	4.3	6.1	3.8	1.7	1.1	1.3
EXER: 0614 NATL % 81.4 (Test for this exercise was not released)																					
UNADJ EFFECT	1.6	-0.8	-0.2	-2.9	-0.3	0.3	-6.3	-13.2	6.6	-7.9	5.0	4.0	-4.0	2.9	-16.0	-7.7	-2.6	-3.3	0.2	5.0	-4.6
STD ERROR	1.3	2.6	1.7	1.5	0.9	1.0	5.6	3.9	2.4	3.1	1.8	2.8	1.6	0.6	1.8	1.4	3.5	2.0	1.4	1.0	1.5
BAL EFFECT	2.0	1.4	-0.9	-2.0	-0.4	0.5	-3.4	-4.4	3.7	-6.3	3.8	2.9	-4.4	2.0	-13.0	-3.1	-1.2	-1.4	0.0	3.7	-3.5
STD ERROR	1.2	2.3	1.6	1.5	0.9	1.0	5.1	4.1	2.6	3.3	1.7	1.8	1.7	0.6	3.7	3.7	3.6	3.2	1.3	1.0	1.8
EXER: 0615 NATL % 80.9 (Test for this exercise was not released)																					
UNADJ EFFECT	0.0	-2.3	2.6	-1.5	2.0	-1.9	1.0	-18.6	7.4	-12.0	3.9	1.6	4.0	3.1	-10.6	-17.3	-13.7	-4.3	1.5	5.3	-4.1
STD ERROR	2.0	2.0	2.1	2.3	0.9	0.9	5.7	5.1	2.1	3.7	2.7	2.1	1.9	0.7	3.2	3.0	5.2	4.2	1.6	1.1	1.8
BAL EFFECT	-0.2	-2.8	2.0	-0.8	1.9	-1.9	3.5	-11.0	4.8	-12.1	1.5	1.2	3.5	2.0	-6.8	-12.5	-11.5	-4.6	1.2	4.3	-3.1
STD ERROR	1.8	2.1	2.1	2.1	0.9	0.9	4.9	5.8	1.9	4.0	2.7	1.9	2.0	0.6	3.0	4.2	5.1	4.4	1.6	1.1	1.3
EXER: 0616 NATL % 80.3 (Test for this exercise was not released)																					
UNADJ EFFECT	5.8	-14.2	4.1	-0.2	-3.0	3.1	-12.6	-35.9	8.6	-12.0	11.3	2.6	1.5	6.8	-30.9	-25.1	-17.9	-7.8	4.5	7.7	-6.8
STD ERROR	1.7	2.8	1.9	2.1	0.9	0.9	3.8	4.6	3.1	4.3	2.0	2.0	2.4	0.8	1.4	3.2	5.1	3.9	1.3	1.2	1.3
BAL EFFECT	2.6	-9.8	3.9	-0.0	-2.9	1.0	-6.7	-19.9	7.3	-10.1	5.1	0.7	2.6	4.5	-20.8	-19.8	-12.6	-2.9	2.6	5.1	-4.3
STD ERROR	1.3	2.1	1.4	1.7	0.8	0.8	2.7	5.0	1.8	2.9	2.0	1.4	1.7	0.6	2.4	3.8	4.8	3.6	1.1	0.9	1.1

EXER: 0617 NATL % 78.2 (Text for this exercise was not released)

UNADJ EFFECT	1.7	-5.5	0.2	3.2	2.0	-2.1	-6.1	-11.8	8.4	-1.8	1.6	-0.5	3.0	1.3	-6.2	-8.7	-3.1	-5.0	0.8	6.1	-5.7
STD ERROR	2.2	2.2	2.3	2.1	1.1	1.3	6.3	3.4	1.8	2.4	3.4	2.5	2.0	0.8	3.2	3.8	5.3	4.6	1.7	1.5	1.8
BAL EFFECT	1.8	-6.1	-0.2	8.5	1.9	-2.0	-2.7	-8.8	2.3	-1.5	0.8	-1.1	3.8	0.9	-0.5	-9.3	-1.6	-3.0	0.7	5.2	-5.8
STD ERROR	2.2	2.1	2.3	2.2	1.2	1.3	5.3	4.0	3.4	2.7	3.2	2.8	2.0	0.5	3.8	8.3	8.8	8.7	1.7	1.5	1.5

EXER: 0618 NATL % 77.7 (Text for this exercise was not released)

UNADJ EFFECT	3.2	-7.3	-1.0	3.1	3.1	-3.5	-13.6	-18.8	6.2	-3.7	2.9	3.6	2.0	4.3	-25.6	-9.1	-8.1	-5.7	0.8	5.7	-5.1
STD ERROR	2.2	2.8	2.4	2.2	0.9	1.0	5.6	6.2	3.9	4.4	3.1	2.7	2.7	0.8	3.2	4.7	4.7	3.8	1.9	1.3	1.8
BAL EFFECT	0.9	-4.4	-1.9	4.3	2.9	-3.2	-6.5	-4.7	2.1	-3.9	0.1	2.9	1.0	3.5	-28.3	-6.7	-2.3	-3.1	1.8	3.9	-6.0
STD ERROR	2.0	2.5	2.3	2.0	0.9	1.0	5.3	5.6	3.7	3.4	3.2	2.5	2.3	0.7	3.2	4.4	4.4	3.7	1.8	1.1	1.6

EXER: 0619 NATL % 77.8 (Text for this exercise was not released)

UNADJ EFFECT	7.0	-12.0	5.1	-2.3	-2.9	3.1	-18.3	-25.7	7.4	-3.3	4.9	1.5	5.2	4.5	-20.0	-30.8	-11.4	-9.5	-2.1	8.9	-5.3
STD ERROR	1.8	3.5	1.8	2.4	0.9	0.9	7.5	4.1	3.0	4.0	2.9	2.2	1.8	0.9	5.8	4.0	5.4	6.2	1.8	1.2	1.5
BAL EFFECT	5.7	-12.8	4.6	0.6	-3.2	1.4	-12.4	-13.7	4.9	-1.5	1.1	0.2	4.9	3.3	-11.5	-27.5	-3.7	-3.4	-2.5	7.0	-4.8
STD ERROR	1.8	2.6	1.7	1.8	0.9	0.9	5.3	4.3	2.8	3.7	2.4	2.2	1.7	0.8	5.0	3.0	5.5	4.9	1.8	1.2	1.4

EXER: 0620 NATL % 76.7 (Text for this exercise was not released)

UNADJ EFFECT	1.4	-9.3	1.0	4.5	0.0	-0.0	-7.1	-12.9	5.2	-6.5	0.9	2.9	2.2	4.6	-22.1	-14.2	-10.5	-5.1	4.8	5.1	-5.8
STD ERROR	2.1	3.1	2.7	2.1	1.0	1.0	4.3	2.9	4.3	4.6	4.0	2.6	2.3	0.8	3.6	4.0	5.1	4.4	1.8	1.6	1.6
BAL EFFECT	-0.6	-7.5	0.6	5.4	0.3	-0.4	-2.6	2.2	3.2	-4.7	-3.9	1.5	2.6	4.2	-18.2	-16.8	-7.7	-1.7	4.1	3.5	-4.8
STD ERROR	1.9	2.6	2.3	1.9	1.0	1.0	4.0	4.1	3.0	3.0	3.8	2.3	1.8	0.8	3.7	4.5	4.7	4.2	1.8	1.4	1.6

EXER: 0621 NATL % 76.6 (Text for this exercise was not released)

UNADJ EFFECT	3.2	3.7	-3.3	-2.3	-2.8	3.1	-8.7	2.1	2.2	-6.2	-3.5	4.7	2.5	0.2	0.1	-2.3	7.6	-0.0	2.3	3.9	-7.2
STD ERROR	1.9	2.3	2.1	2.3	0.9	1.1	5.8	3.3	3.3	5.1	1.9	2.3	2.3	0.5	2.8	4.3	3.5	2.9	1.7	1.4	1.5
BAL EFFECT	3.4	2.7	-2.8	-2.4	-2.8	3.1	-10.0	3.7	1.3	-5.0	-3.2	4.1	2.7	-0.2	0.5	1.6	8.2	-0.5	2.2	1.9	-7.1
STD ERROR	1.8	2.4	2.2	2.3	0.9	1.1	5.5	3.8	3.2	5.2	2.0	2.3	2.3	0.6	3.1	4.7	4.0	3.2	1.6	1.4	1.6

EXER: 0622 NATL % 75.3 (Text for this exercise was not released)

UNADJ EFFECT	1.3	-5.8	3.1	0.5	-0.7	0.7	-4.8	-32.0	7.3	-3.5	3.7	3.3	1.5	4.2	-18.9	-28.7	-20.0	-16.5	2.7	7.6	-5.3
STD ERROR	2.5	3.0	2.2	2.2	0.8	0.9	6.9	4.8	3.1	4.0	2.3	1.0	2.3	0.8	5.3	3.4	5.0	6.9	1.6	1.4	1.6
BAL EFFECT	-0.3	-6.3	2.0	4.1	-0.6	0.6	0.0	-20.2	4.1	-1.3	1.7	2.0	0.5	3.1	-10.9	-25.5	-15.4	-12.4	2.2	5.8	-4.2
STD ERROR	2.2	2.3	2.2	2.1	0.8	0.9	5.4	5.1	3.3	3.2	2.3	2.7	2.4	0.7	4.9	4.4	5.0	6.5	1.6	1.4	1.4

EXER: 0623 NATL % 74.9 (Text for this exercise was not released)

UNADJ EFFECT	6.4	-7.7	2.1	-3.1	1.5	-1.5	-8.9	-13.7	10.5	3.0	1.4	2.7	-2.3	3.9	-16.8	-14.0	-15.4	-14.3	2.6	7.9	-5.9
STD ERROR	2.1	2.4	1.9	2.5	1.2	1.2	2.7	1.8	2.3	3.2	2.5	2.6	2.6	0.7	2.6	2.9	5.6	6.1	1.8	1.2	1.6
BAL EFFECT	4.5	-4.5	1.9	-3.4	1.4	-1.4	-5.1	-0.3	5.3	2.1	-1.5	2.0	-2.4	3.3	-14.9	-10.0	-11.2	-13.3	3.0	7.0	-5.9
STD ERROR	1.9	2.0	1.6	2.5	1.1	1.1	2.8	4.4	2.2	3.2	2.3	2.1	2.2	0.8	2.9	4.0	5.6	6.1	1.8	1.1	1.6

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: 0624 NATL % 73.9 (Text for this exercise was not released)																					
UNADJ EFFECT	-2.2	-10.6	5.4	5.9	3.6	-3.6	-6.9	-29.8	6.8	-0.8	8.4	-1.0	0.9	4.7	-28.3	-9.3	-13.9	-9.4	-1.4	9.4	-6.7
STD ERROR	1.9	3.6	2.0	2.0	1.2	1.3	6.8	5.3	4.1	2.6	2.8	2.8	2.6	1.0	3.7	4.3	4.6	4.0	1.8	1.2	1.8
BAL EFFECT	-4.7	-5.3	3.4	5.9	3.1	-3.1	-4.1	-16.7	1.3	0.5	6.2	-0.8	-0.1	3.3	-19.2	-8.1	-9.0	-6.3	-1.4	7.5	-5.8
STD ERROR	1.9	3.1	1.8	2.2	1.2	1.2	4.7	4.1	3.6	2.6	2.5	2.3	2.5	0.8	4.0	3.9	4.4	4.0	1.7	1.1	1.8
EXER: 0625 NATL % 73.3 (Text for this exercise was not released)																					
UNADJ EFFECT	3.1	-4.0	1.7	-1.8	-1.7	1.8	-2.8	-21.2	12.6	0.5	-3.6	2.4	-0.6	3.3	-16.1	-12.7	-16.5	1.2	-1.0	4.9	-3.0
STD ERROR	2.2	3.5	2.1	2.3	1.1	1.1	9.0	3.7	2.1	2.3	2.9	2.2	2.3	0.9	4.4	4.0	6.1	4.4	2.5	1.5	1.5
BAL EFFECT	2.9	-4.0	1.3	-1.0	-1.8	1.9	-0.3	-14.0	9.8	0.8	-5.3	1.9	0.3	1.9	-10.0	-5.6	-12.5	2.3	-0.4	3.3	-2.3
STD ERROR	1.9	2.6	2.0	1.9	1.0	1.1	6.6	3.6	2.1	2.4	3.0	2.0	2.2	0.8	3.7	4.3	6.1	4.7	2.1	1.4	1.5
EXER: 0626 NATL % 72.5 (Text for this exercise was not released)																					
UNADJ EFFECT	9.2	-14.6	4.6	-1.6	0.7	-0.7	-19.9	-29.6	14.8	-3.2	4.1	2.7	2.0	5.0	-27.4	-26.1	-5.6	-20.2	-2.9	11.4	-6.5
STD ERROR	2.3	3.4	2.2	2.4	1.2	1.2	7.6	4.9	3.7	4.2	3.1	2.5	2.4	0.9	4.8	4.5	5.5	6.1	2.1	1.4	1.9
BAL EFFECT	7.5	-14.4	5.1	-0.5	0.4	-0.4	-12.8	-16.3	11.8	-2.1	0.6	0.8	1.9	3.6	-17.8	-21.4	2.3	-12.7	-2.6	8.6	-5.7
STD ERROR	1.8	2.6	2.1	2.2	1.1	1.2	6.4	4.1	3.1	4.6	2.5	2.3	2.1	0.6	3.7	4.4	5.7	5.3	1.8	1.3	1.6
EXER: 0627 NATL % 71.1 (Text for this exercise was not released)																					
UNADJ EFFECT	6.6	-5.6	-2.5	0.6	-0.9	0.9	-17.3	-12.4	7.4	-4.4	6.2	2.3	-0.6	3.3	-15.7	-9.9	-11.5	-8.4	-1.7	6.4	-1.5
STD ERROR	1.9	2.3	2.8	2.2	1.0	1.0	10.1	4.9	2.9	3.1	2.1	2.6	2.5	0.7	3.0	3.2	4.6	4.5	2.0	1.5	1.7
BAL EFFECT	4.1	-1.3	-2.3	-0.2	-0.7	0.8	-12.6	-4.4	4.3	-3.1	4.3	1.0	-0.3	2.3	-11.6	-6.4	-8.0	-5.6	-2.5	5.3	-0.8
STD ERROR	1.6	2.9	2.6	2.0	1.0	1.0	10.5	4.4	2.6	3.3	2.8	2.7	2.2	0.7	3.0	3.2	4.3	4.8	1.9	1.4	1.6
EXER: 0628 NATL % 69.5 (Text for this exercise was not released)																					
UNADJ EFFECT	1.4	-2.6	4.5	-5.5	1.4	-1.6	-5.8	-14.9	9.0	-6.4	1.1	1.5	1.2	2.1	-8.8	-10.4	-2.4	-3.5	1.8	4.7	-4.7
STD ERROR	2.3	3.2	2.1	3.1	1.2	1.4	6.6	4.8	3.3	3.3	3.1	2.2	2.9	0.6	2.7	4.2	5.3	3.8	2.0	1.9	2.0
BAL EFFECT	0.4	-1.2	3.7	-4.5	1.0	-1.1	-4.3	-10.1	6.4	-4.1	-0.2	1.9	0.6	0.9	-4.3	-3.5	-1.3	-2.6	1.3	3.5	-3.5
STD ERROR	2.3	3.0	2.2	3.1	1.2	1.4	5.9	4.9	3.8	3.1	2.9	2.2	2.7	0.6	3.0	4.3	5.1	3.8	1.9	1.9	1.9
EXER: 0629 NATL % 69.0 (Text for this exercise was not released)																					
UNADJ EFFECT	-0.7	-7.4	3.1	3.5	1.1	-1.1	-11.1	-16.1	12.1	-3.5	6.4	-1.1	-3.0	4.4	-23.1	-8.2	-10.1	-4.7	1.3	10.6	-7.9
STD ERROR	2.5	3.5	2.6	2.0	1.2	1.2	8.3	5.1	3.5	3.7	2.8	2.2	2.9	1.0	3.8	3.6	7.1	5.5	2.0	1.7	1.3
BAL EFFECT	-3.1	-1.4	1.7	2.3	0.1	-0.1	-5.6	-1.5	8.5	-1.6	3.0	-1.4	-3.3	3.8	-19.2	-7.9	-7.2	-2.5	1.8	8.0	-6.7
STD ERROR	2.4	2.3	2.2	1.8	1.1	1.0	5.6	5.4	3.1	3.3	2.5	2.1	2.3	0.8	3.6	3.6	6.6	5.1	2.0	1.8	1.4
EXER: 0630 NATL % 68.3 (Text for this exercise was not released)																					
UNADJ EFFECT	3.9	-4.4	0.9	-0.9	1.3	-1.4	-4.3	-28.4	12.3	-4.1	0.9	5.9	-3.4	3.4	-16.2	-14.4	-18.0	-7.4	-1.2	4.6	-1.3
STD ERROR	2.7	3.2	2.5	2.3	1.2	1.2	5.0	3.4	3.3	4.8	3.5	2.6	2.5	0.8	4.0	5.0	4.5	5.1	2.8	1.6	1.6
BAL EFFECT	3.1	-4.4	0.4	0.3	1.1	-1.1	-1.6	-23.0	9.5	-4.1	-0.7	5.6	-2.3	1.6	-8.6	-4.8	-12.2	-5.1	-0.7	2.6	-0.3
STD ERROR	2.4	2.3	2.2	2.4	1.2	1.2	3.6	3.9	3.4	4.6	3.3	2.4	2.3	0.6	3.7	4.6	4.8	4.8	2.6	1.5	1.6

EXER: 0631 NATL % 67.3 (Text for this exercise was not released)

UNADJ EFFECT	5.2	-6.4	4.2	-6.1	4.6	-5.3	-15.4	-31.2	10.6	-15.2	6.1	2.6	3.1	5.5	-21.2	-29.5	-10.9	-8.5	2.4	8.3	-6.2
STD ERROR	2.0	3.1	2.6	2.9	1.1	1.3	7.0	3.7	3.4	5.0	3.1	2.6	3.0	0.9	2.8	5.2	5.1	5.0	2.3	1.7	1.7
BAL EFFECT	2.0	-2.9	1.1	-1.2	4.2	-4.8	-10.7	-17.4	5.4	-10.2	3.2	3.1	1.9	3.7	-12.7	-22.3	-8.0	-5.6	1.7	5.3	-3.9
STD ERROR	2.1	3.6	2.5	2.4	1.0	1.3	8.7	3.8	3.2	3.9	3.1	2.4	3.2	0.8	4.2	5.6	4.8	5.0	2.3	1.8	1.5

EXER: 0632 NATL % 66.5 (Text for this exercise was not released)

UNADJ EFFECT	3.7	-10.9	3.4	0.9	2.4	-2.8	-20.7	-20.6	14.6	-3.0	3.4	1.7	-0.7	4.6	-24.3	-13.1	-11.4	-6.7	4.4	6.8	-6.5
STD ERROR	2.4	3.4	2.7	2.4	1.1	1.3	6.3	6.1	2.8	4.1	3.6	2.4	2.3	0.8	3.3	4.2	6.6	3.9	2.0	2.0	1.8
BAL EFFECT	0.5	-5.0	0.3	2.7	2.0	-2.4	-15.3	-5.4	9.5	0.5	0.9	1.9	-2.3	3.7	-19.0	-12.0	-6.5	-2.5	5.1	3.8	-5.6
STD ERROR	2.6	2.5	2.5	2.6	1.0	1.2	8.6	5.4	2.9	3.1	3.4	2.5	2.3	0.7	4.4	4.3	5.8	4.2	1.9	2.0	1.9

EXER: 0633 NATL % 65.1 (Text for this exercise was not released)

UNADJ EFFECT	6.5	-13.1	0.3	3.1	7.1	-6.9	-5.0	-21.6	16.2	1.4	6.2	-0.9	-2.4	4.8	-25.3	-7.0	-11.8	-7.7	-0.4	11.9	-9.7
STD ERROR	3.0	3.3	2.6	3.0	1.4	1.5	7.5	5.6	4.3	4.8	3.0	3.1	3.8	0.9	3.9	3.2	5.7	5.8	2.4	1.8	2.3
BAL EFFECT	4.9	-8.9	-0.1	2.0	6.8	-6.6	0.1	-6.5	8.8	-0.5	2.7	-1.6	-1.8	3.7	-19.5	-5.4	-7.7	-7.1	0.1	10.1	-8.8
STD ERROR	2.7	3.1	2.6	3.3	1.3	1.4	7.3	5.0	4.6	4.3	3.1	2.8	3.6	0.8	3.3	4.1	5.0	6.2	2.2	2.1	2.0

EXER: 0634 NATL % 63.1 (Text for this exercise was not released)

UNADJ EFFECT	3.4	-7.8	0.0	3.6	8.0	-8.0	-12.7	-24.3	14.3	0.3	5.3	-0.9	0.8	4.4	-27.0	-7.9	-16.5	-9.1	-1.3	10.4	-7.7
STD ERROR	2.6	3.6	2.1	2.4	1.2	1.3	6.5	4.1	2.7	3.7	2.5	3.1	2.7	0.9	3.1	4.6	6.1	4.3	2.5	1.5	1.8
BAL EFFECT	1.1	-2.0	-2.0	3.0	7.5	-7.5	-8.3	-10.8	8.2	2.2	3.3	-1.8	-0.2	3.2	-19.8	-5.5	-11.8	-5.9	-0.8	8.3	-6.8
STD ERROR	2.6	2.2	2.1	2.1	1.2	1.2	4.9	4.0	2.8	3.1	2.6	2.8	2.4	0.7	3.2	4.3	5.7	4.2	2.2	1.4	1.7

EXER: 0635 NATL % 61.9 (Text for this exercise was not released)

UNADJ EFFECT	-8.6	-9.0	8.6	4.9	0.8	-0.8	3.5	-23.6	2.9	-12.4	4.8	-1.8	6.7	3.1	-13.6	-12.3	1.7	-2.6	2.9	5.4	-6.6
STD ERROR	2.4	2.5	2.1	2.1	1.2	1.3	5.3	4.8	3.9	5.2	2.6	2.2	3.1	0.7	3.6	3.7	4.9	5.8	2.0	2.0	1.8
BAL EFFECT	-9.2	-10.0	8.9	6.0	0.9	-0.9	2.2	-17.2	5.9	-12.8	0.7	-1.6	7.5	1.6	-6.0	-8.8	2.1	-0.7	2.5	3.4	-4.9
STD ERROR	2.1	2.9	2.1	2.1	1.2	1.2	5.2	5.9	3.7	4.0	2.5	2.1	3.1	0.8	3.8	4.8	4.7	5.8	1.9	1.9	1.7

EXER: 0636 NATL % 61.5 (Text for this exercise was not released)

UNADJ EFFECT	0.5	-6.4	-0.5	5.0	1.9	-1.9	-9.2	-14.0	11.6	-4.5	5.5	1.1	-4.3	3.3	-20.0	-1.9	-7.4	-1.5	3.2	1.7	-2.7
STD ERROR	2.0	2.9	2.3	1.9	1.0	1.1	7.6	4.5	3.0	5.4	2.1	1.9	3.1	0.7	2.8	3.2	4.5	4.7	2.5	1.9	1.5
BAL EFFECT	-2.3	-2.4	0.1	4.1	2.1	-2.2	-7.5	-6.6	10.4	-3.3	3.2	0.6	-4.2	2.5	-15.5	-0.9	-3.9	1.6	2.8	0.0	-1.8
STD ERROR	1.8	2.9	2.1	2.0	1.1	1.1	7.3	5.3	3.0	5.6	2.5	1.9	2.8	0.7	3.2	3.6	4.5	4.5	2.3	1.9	1.4

EXER: 0637 NATL % 57.6 (Text for this exercise was not released)

UNADJ EFFECT	-0.1	-6.4	3.1	1.9	3.9	-3.8	5.1	-11.2	3.0	2.3	1.3	2.2	-5.9	1.2	-7.7	0.7	-10.3	-10.0	0.9	1.7	0.9
STD ERROR	2.2	2.4	2.8	2.3	1.3	1.3	4.3	4.4	3.7	2.7	2.9	2.3	3.3	0.7	3.5	3.3	6.1	5.7	2.6	1.8	1.9
BAL EFFECT	-0.4	-5.2	2.8	1.6	4.0	-3.9	7.8	-9.1	0.5	0.6	-0.3	3.1	-4.4	0.7	-4.8	1.9	-10.7	-10.1	0.8	0.7	1.9
STD ERROR	2.3	3.3	2.8	2.3	1.3	1.3	4.9	4.9	3.8	2.7	3.1	2.3	4.0	0.7	4.0	3.2	6.2	5.6	2.5	1.9	1.8

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	E.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME APP SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: 0638 NATL % 56.5 (Text for this exercise was not released)																					
UNADJ EFFECT	-0.1	0.4	0.9	-0.6	1.3	-1.4	0.3	-0.1	1.1	-2.2	-2.7	1.0	1.3	1.3	-8.8	-8.8	-6.3	-9.3	1.3	1.9	-0.9
STD ERROR	2.8	2.9	2.3	2.8	1.3	1.3	4.9	3.7	4.6	2.7	4.4	3.0	2.7	0.6	4.3	4.3	4.9	5.4	2.1	1.8	1.7
BAL EFFECT	-0.8	5.2	0.9	-0.8	1.4	-1.4	-0.3	1.1	2.0	-0.5	-2.1	0.8	-0.4	1.3	-9.4	-2.8	-7.2	-10.4	1.2	1.1	0.1
STD ERROR	2.7	2.6	2.8	2.9	1.2	1.3	5.4	1.9	4.3	2.7	3.9	2.8	2.6	0.7	4.2	5.0	4.9	5.4	2.1	1.8	1.8
EXER: 0639 NATL % 58.4 (Text for this exercise was not released)																					
UNADJ EFFECT	-0.0	-1.8	-0.8	2.7	4.3	-4.4	-11.2	-20.1	19.6	-4.9	5.1	-2.2	0.9	4.6	-25.2	-14.2	-1.9	-9.3	-5.6	10.1	-6.3
STD ERROR	2.6	3.9	2.9	2.7	1.1	1.1	4.0	3.7	4.9	4.8	3.5	3.1	2.6	0.8	2.9	5.5	5.7	5.8	2.3	1.5	1.8
BAL EFFECT	-2.7	3.6	-2.5	2.8	4.0	-4.0	-7.9	-6.0	13.8	-1.5	4.2	-1.5	-1.2	3.9	-21.2	-12.0	-0.3	-6.2	-4.5	7.9	-5.3
STD ERROR	2.6	2.9	2.6	2.8	1.1	1.1	4.4	4.7	4.7	4.4	3.4	2.6	2.5	0.8	3.4	5.9	5.1	5.6	2.3	1.4	1.6
EXER: 0640 NATL % 53.8 (Text for this exercise was not released)																					
UNADJ EFFECT	1.8	-6.9	-3.9	7.5	5.7	-6.5	-19.4	-11.2	8.7	-3.8	-2.1	7.1	1.4	3.4	-16.5	-12.5	-13.5	-11.0	-2.8	9.7	-4.0
STD ERROR	3.1	4.2	3.3	3.8	1.1	1.2	5.8	3.6	5.0	6.1	3.4	4.1	4.6	0.7	3.6	4.0	5.5	5.4	2.4	1.7	2.3
BAL EFFECT	-0.4	-5.7	-5.1	10.0	5.8	-6.5	-10.8	-1.0	4.7	-6.9	-4.1	7.3	0.7	2.6	-10.2	-13.3	-11.6	-9.4	-1.7	7.6	-3.2
STD ERROR	2.9	4.6	3.3	3.5	1.0	1.2	5.8	3.8	4.5	5.5	3.5	3.8	3.7	0.8	3.8	5.1	5.3	6.4	2.5	1.8	2.3
EXER: 0641 NATL % 49.2 (Text for this exercise was not released)																					
UNADJ EFFECT	0.2	-2.7	-1.6	3.8	0.1	-0.1	-2.4	-14.0	8.3	-5.3	-1.7	3.5	2.5	3.0	-10.0	-17.2	-5.1	4.9	-2.0	6.9	-6.1
STD ERROR	2.1	3.0	2.5	2.8	1.4	1.4	6.5	2.9	4.2	4.3	2.1	3.2	2.5	0.6	3.0	3.8	4.1	4.5	2.3	1.8	1.7
BAL EFFECT	0.3	-3.5	-2.2	5.1	-0.2	0.2	0.9	-5.4	3.6	-5.3	-2.7	2.8	1.8	2.5	-6.6	-18.1	-2.3	5.4	-1.7	5.7	-5.6
STD ERROR	2.2	3.1	2.6	2.8	1.4	1.3	6.5	3.8	3.8	4.1	2.2	3.1	2.4	0.7	3.6	4.1	5.8	6.1	2.3	1.8	1.6
EXER: 0642 NATL % 48.3 (Text for this exercise was not released)																					
UNADJ EFFECT	3.9	-4.2	-1.5	1.5	1.4	-1.4	-2.7	-16.1	6.4	-2.3	8.7	-3.3	-1.6	3.5	-17.2	-15.0	-7.7	-4.8	3.8	5.4	-7.1
STD ERROR	2.0	2.4	2.1	2.6	1.3	1.3	7.8	4.2	3.2	3.3	2.4	2.5	2.3	0.7	3.8	5.1	4.2	3.9	2.1	1.6	1.9
BAL EFFECT	1.8	-0.2	-3.6	2.5	1.2	-1.2	0.2	-4.5	2.7	0.3	6.8	-4.0	-3.1	3.1	-14.2	-14.4	-4.8	-1.7	4.0	4.2	-6.8
STD ERROR	1.8	1.9	1.9	2.3	1.2	1.2	8.4	3.9	3.3	3.2	2.2	2.3	2.1	0.7	4.4	5.5	4.6	4.0	2.2	1.5	1.9
EXER: 0643 NATL % 41.6 (Text for this exercise was not released)																					
UNADJ EFFECT	2.6	-6.0	1.6	0.6	3.0	-3.2	4.6	-10.0	4.6	-1.6	-2.4	-1.0	1.7	1.0	-7.1	0.4	-4.4	-6.6	3.8	1.8	-4.3
STD ERROR	2.6	3.3	1.8	2.2	1.2	1.3	3.9	4.1	4.1	3.3	2.7	2.4	2.3	0.6	3.8	4.6	5.8	4.6	2.3	1.8	1.9
BAL EFFECT	3.5	-6.6	1.5	0.1	2.8	-2.9	6.6	-9.2	3.7	-2.3	-3.9	-0.5	2.5	0.2	-3.7	4.9	-2.2	-5.1	3.8	3.3	-4.1
STD ERROR	2.6	3.1	1.8	2.4	1.2	1.3	4.[illegible]	[illegible]1	4.3	3.2	2.7	2.3	2.3	0.6	3.6	5.0	6.0	4.6	2.3	1.7	1.8
EXER: 0644 NATL % 41.3 (Text for this exercise was not released)																					
UNADJ EFFECT	2.4	-6.7	4.7	-3.2	3.2	-3.7	-18.2	-28.4	11.1	-6.7	1.9	2.1	4.2	3.9	-19.3	-15.9	-9.8	2.2	-0.6	6.6	-4.8
STD ERROR	3.0	3.9	3.1	2.9	1.2	1.4	5.4	3.3	5.1	5.3	3.6	3.1	3.6	0.8	3.5	4.8	4.8	4.6	2.2	1.8	1.8
BAL EFFECT	0.4	-4.1	3.2	-1.0	2.9	-3.3	-10.2	-18.7	7.8	-1.8	-0.5	2.3	3.6	2.3	-10.0	-10.8	-6.8	4.6	-1.3	4.3	-3.0
STD ERROR	2.9	3.3	2.8	2.5	1.1	1.3	4.5	3.6	5.1	5.0	3.5	3.1	3.2	0.7	3.3	4.6	4.7	4.4	2.0	1.8	1.7

EXPR: U645 NATL % 40.2 (Text for this exercise was not released)

UNADJ EFFECT	6.7	-10.7	-4.5	7.0	0.9	-0.9	-13.2	-14.2	22.4	-5.2	5.2	0.7	-3.2	2.3	-12.7	-2.4	-4.6	-12.1	-2.2	9.1	-5.8
STD ERROR	3.5	3.1	3.0	2.8	1.3	1.3	3.8	3.9	4.9	3.9	3.6	3.4	3.2	0.8	3.4	3.8	4.7	4.3	2.2	1.8	1.8
BAL EFFECT	4.8	-8.0	-3.6	5.7	0.6	-0.6	-8.5	-9.5	16.4	-6.7	3.5	0.6	-1.5	1.2	-6.3	-1.1	-1.2	-8.6	-1.3	7.1	-5.4
STD ERROR	3.1	3.4	2.8	2.6	1.3	1.3	3.3	3.7	4.4	3.9	3.6	3.1	3.1	0.7	3.4	4.7	4.6	4.0	2.1	1.7	1.7

EXPR: U646 NATL % 38.7 (Text for this exercise was not released)

UNADJ EFFECT	7.6	-12.0	-0.0	1.5	0.3	-0.3	-3.7	-7.3	7.0	-4.7	6.5	-0.9	-4.5	1.7	-11.0	-0.1	-7.2	-9.4	1.4	9.0	-6.4
STD ERROR	2.9	3.1	2.4	2.7	1.3	1.4	3.9	1.8	5.7	4.2	3.2	3.0	3.4	0.6	3.3	3.3	4.6	5.2	2.6	1.6	2.0
BAL EFFECT	7.1	-9.7	-0.3	0.5	0.0	-0.0	0.9	-3.8	5.4	-5.3	3.4	-1.2	-2.7	0.5	-4.7	3.1	-4.4	-6.8	1.1	8.2	-6.3
STD ERROR	3.0	3.5	2.5	2.7	1.3	1.3	3.7	4.5	5.1	4.1	3.4	2.6	3.5	0.6	3.3	3.5	4.3	4.9	2.5	1.6	2.0

EXPR: U647 NATL % 36.7 (Text for this exercise was not released)

UNADJ EFFECT	0.7	-7.6	-1.1	7.5	3.2	-3.2	-5.4	-15.7	10.3	-2.9	5.1	-2.7	1.3	2.1	-13.9	-1.2	-10.1	-1.8	-0.2	5.4	-4.7
STD ERROR	3.0	2.6	2.3	2.2	1.3	1.3	5.8	3.1	4.3	4.3	2.8	2.7	2.9	0.7	2.7	5.6	4.4	4.2	2.4	1.5	1.8
BAL EFFECT	-0.3	-5.1	-2.0	7.4	2.8	-2.8	-3.1	-10.5	7.5	-2.8	3.4	-2.4	1.5	1.1	-7.1	-1.6	-7.2	-0.1	0.6	4.1	-4.3
STD ERROR	2.8	2.6	2.3	2.4	1.3	1.3	5.2	3.5	4.5	4.4	2.7	2.7	2.8	0.7	3.1	5.6	4.5	4.0	2.3	1.5	1.8

EXPR: U648 NATL % 37.6 (Text for this exercise was not released)

UNADJ EFFECT	7.0	-6.2	0.4	-3.1	3.1	-3.5	-12.7	-8.7	17.5	-4.2	-1.0	-0.7	0.2	3.1	-12.8	-15.4	-21.1	-7.9	-0.8	9.3	-4.8
STD ERROR	2.8	3.2	3.4	2.9	1.4	1.6	5.1	5.7	4.5	4.7	3.6	4.5	3.4	0.7	2.5	3.7	3.4	4.7	2.0	1.6	1.8
BAL EFFECT	4.8	-4.6	-0.1	-1.5	2.9	-3.3	-5.2	-0.5	13.4	-4.1	-3.7	-0.9	0.5	1.9	-7.8	-9.2	-18.5	-4.8	-0.0	7.5	-4.3
STD ERROR	2.8	3.1	3.0	2.8	1.4	1.6	4.7	6.0	4.1	5.1	3.6	4.1	3.3	0.7	3.5	4.1	3.4	3.9	2.0	1.5	1.7

EXPR: U649 NATL % 36.8 (Text for this exercise was not released)

UNADJ EFFECT	4.7	-1.6	-4.6	2.1	-0.7	0.6	-7.4	-4.9	9.8	3.3	0.2	0.1	-1.4	0.8	-5.2	1.3	-5.4	-7.7	0.4	5.4	-4.2
STD ERROR	2.7	3.4	2.4	2.6	1.2	1.2	4.1	4.3	4.8	5.0	3.0	2.7	3.7	0.6	2.9	4.2	4.6	4.9	2.0	1.7	1.8
BAL EFFECT	3.9	0.4	-4.2	0.9	-0.8	0.8	-5.9	-2.2	6.1	3.3	0.1	-0.3	-0.7	0.4	-3.6	2.4	-4.4	-6.2	0.7	5.0	-4.2
STD ERROR	2.8	3.5	2.3	2.7	1.2	1.2	4.5	5.1	4.9	5.1	2.8	2.6	3.7	0.7	3.2	4.7	4.5	4.8	2.0	1.7	1.7

EXPR: U650 NATL % 36.0 (Text for this exercise was not released)

UNADJ EFFECT	4.2	-5.9	-1.9	3.4	1.1	-1.2	-10.6	-11.1	9.0	-3.4	-2.9	3.6	1.5	0.9	-4.7	-4.8	-2.5	-12.9	0.9	6.2	-5.1
STD ERROR	2.8	2.9	3.3	3.1	1.3	1.4	6.2	4.2	4.0	5.4	4.1	2.8	4.2	0.6	4.5	4.3	6.0	4.8	2.2	2.0	1.9
BAL EFFECT	3.6	-6.9	-0.9	3.6	0.9	-0.9	-7.0	-9.6	7.0	-3.9	-3.8	2.8	2.7	0.1	1.8	-3.7	0.2	-9.7	1.5	5.0	-5.1
STD ERROR	3.0	3.2	3.0	3.3	1.3	1.4	7.6	4.5	4.3	5.5	4.2	2.7	4.1	0.6	4.4	5.3	5.7	4.3	2.3	2.0	1.8

EXPR: U651 NATL % 34.2 (Text for this exercise was not released)

UNADJ EFFECT	0.9	-3.2	1.9	-0.3	-0.7	0.7	-7.1	-12.3	-2.3	-3.6	5.9	0.5	2.3	2.4	-14.9	-4.7	-1.7	-6.5	-1.9	5.8	-4.3
STD ERROR	2.1	2.4	2.1	2.2	1.3	1.3	4.5	3.3	4.5	4.3	2.6	2.3	2.3	0.7	2.9	5.9	5.0	4.0	2.5	1.4	1.9
BAL EFFECT	-0.5	-0.5	1.4	-0.7	-0.9	0.9	-5.6	-4.9	-5.2	-2.6	5.0	0.2	1.6	1.8	-11.6	-1.7	-0.0	-5.1	-2.1	5.2	-3.9
STD ERROR	2.0	2.4	2.1	2.5	1.3	1.3	4.1	3.6	4.3	4.1	2.6	2.1	2.1	0.7	3.2	6.5	4.9	4.1	2.5	1.4	1.8

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: 0652 NATL % 33.4 (Text for this exercise was not released)																					
UNADJ EFFECT	-0.8	-1.6	1.0	0.8	4.7	-4.9	3.3	-5.6	-1.1	-2.6	2.0	-0.1	0.1	-0.2	0.6	1.3	-2.6	-3.4	-1.8	4.0	-1.3
STD ERROR	1.7	2.6	2.0	2.2	1.0	1.0	3.2	2.4	4.0	3.9	2.6	2.2	2.6	0.4	2.6	3.1	5.4	4.3	2.3	1.9	1.8
BAL EFFECT	-0.5	-1.3	0.5	0.9	4.7	-4.9	2.9	-7.8	-1.3	-3.8	1.8	0.7	0.9	-0.8	2.8	4.4	-4.3	-4.1	-1.7	3.9	-1.1
STD ERROR	1.8	2.6	2.0	2.3	1.0	1.1	3.7	3.0	4.1	3.8	2.5	2.2	2.5	0.6	2.9	3.8	6.0	4.3	2.2	1.9	1.7
EXER: 0653 NATL % 21.9 (Text for this exercise was not released)																					
UNADJ EFFECT	-2.2	4.2	-3.4	3.2	0.9	-0.9	-1.9	-1.6	0.0	-1.0	-4.9	3.3	3.0	1.0	-7.7	2.5	3.1	-0.8	-0.5	-1.7	1.6
STD ERROR	1.7	2.1	1.7	1.5	1.0	1.1	3.7	2.5	2.8	4.2	1.7	2.1	1.7	0.4	2.4	3.3	4.0	3.3	1.8	1.5	1.3
BAL EFFECT	-2.7	5.3	-3.2	2.7	1.3	-1.3	-1.3	2.3	-2.0	0.6	-4.1	2.8	1.8	1.6	-10.2	-0.3	2.2	-1.3	-0.6	-1.7	1.9
STD ERROR	1.6	2.0	1.9	1.5	1.0	1.1	3.6	3.1	2.7	4.1	2.0	2.0	1.6	0.5	2.6	3.6	3.9	3.1	1.6	1.5	1.2
EXER: 0654 NATL % 20.8 (Text for this exercise was not released)																					
UNADJ EFFECT	1.2	-5.0	-0.6	4.1	6.2	-6.0	-9.2	-10.2	12.9	-2.2	4.2	-5.7	1.9	2.0	-10.1	-4.6	0.8	-8.3	-5.2	8.8	-2.9
STD ERROR	2.1	2.4	2.3	2.8	1.0	1.0	3.9	3.4	5.0	3.5	2.6	3.0	2.6	0.6	2.5	4.2	5.4	3.2	1.7	2.0	1.4
BAL EFFECT	0.0	-2.9	-0.7	3.6	5.7	-5.5	-5.4	-6.4	8.2	-2.2	2.4	-5.0	3.3	1.2	-5.0	-5.0	3.0	-6.9	-4.2	6.4	-2.0
STD ERROR	2.3	2.4	2.8	2.8	1.0	0.9	3.7	3.6	5.3	3.6	2.5	3.1	2.3	0.6	2.8	4.1	5.3	3.5	1.7	1.9	1.4
EXER: 0655 NATL % 14.5 (Text for this exercise was not released)																					
UNADJ EFFECT	-0.7	-0.6	-0.7	2.2	1.0	-1.0	-3.1	9.7	4.9	-3.4	-1.8	1.1	-1.3	-0.3	2.4	-0.7	-3.6	1.3	-0.3	2.6	-1.8
STD ERROR	1.9	1.7	1.9	1.8	0.9	0.9	3.1	4.0	4.7	1.9	1.7	1.6	2.2	0.4	2.6	2.5	3.9	3.7	1.6	1.4	1.1
BAL EFFECT	-0.4	-0.9	-0.3	1.7	0.8	-0.8	-2.6	9.5	3.8	-2.9	-2.0	1.3	-1.0	-0.1	1.8	-2.8	-3.3	1.7	-0.0	2.4	-1.9
STD ERROR	1.9	1.8	2.0	2.1	0.9	0.9	3.2	4.4	5.0	2.0	1.8	1.7	2.3	0.4	2.5	3.0	3.8	3.8	1.5	1.3	1.1
EXER: 0656 NATL % 12.7 (Text for this exercise was not released)																					
UNADJ EFFECT	0.2	0.3	0.9	-1.8	0.1	-0.1	3.3	-1.5	-0.5	1.3	0.6	-3.7	2.3	-0.1	-0.4	2.0	2.6	-3.0	0.3	1.1	-1.1
STD ERROR	1.4	2.2	2.2	1.6	0.7	0.8	3.6	2.1	2.8	2.1	2.8	1.5	2.0	0.4	1.8	3.2	2.7	2.8	1.7	1.4	0.9
BAL EFFECT	0.7	0.1	1.0	-2.3	-0.0	0.0	3.4	-2.0	-0.5	1.1	0.4	-3.5	2.5	-0.4	0.2	4.3	2.1	-3.1	0.1	1.2	-0.9
STD ERROR	1.6	2.1	2.0	1.5	0.7	0.8	3.5	2.3	2.8	2.2	2.6	1.4	1.9	0.4	2.0	3.3	2.6	2.8	1.7	1.3	0.9
EXER: 0657 NATL % 11.6 (Text for this exercise was not released)																					
UNADJ EFFECT	2.5	-2.3	1.1	-1.9	2.6	-2.7	4.5	0.6	-1.5	2.1	-4.6	3.0	-0.1	-0.2	0.4	1.4	-2.5	3.8	0.8	-0.0	-0.7
STD ERROR	2.1	1.8	1.7	1.6	0.8	0.8	5.1	2.9	2.5	3.3	1.6	1.7	2.0	0.4	2.4	2.7	3.5	3.3	1.6	0.9	1.2
BAL EFFECT	3.2	-3.5	1.3	-1.9	2.5	-2.6	4.7	-0.4	-0.9	1.8	-5.4	3.3	0.3	-0.4	1.1	2.8	-2.2	4.9	0.4	0.4	-1.2
STD ERROR	1.9	1.9	1.5	1.4	0.8	0.8	4.9	3.0	2.3	3.3	1.7	1.7	2.0	0.5	2.6	2.9	3.6	3.4	1.7	0.9	1.1

OBJECTIVE: Possess the ability and skills needed to engage in the processes of science.

EXER: 0658 NATL % 95.6 (Text for this exercise was not released)																					
UNADJ EFFECT	2.1	-3.7	1.0	0.1	-1.0	1.1	-5.1	-11.8	4.4	0.1	1.8	1.3	-0.3	1.8	-11.5	-7.2	-3.8	-5.8	1.7	1.9	-1.9
STD ERROR	0.7	1.5	0.9	1.0	0.4	0.5	3.6	1.7	0.6	1.5	0.9	1.0	1.0	0.5	3.0	2.9	2.8	3.9	0.5	0.6	0.7
BAL EFFECT	1.3	-3.2	1.0	0.4	-1.1	1.1	-3.5	-6.4	3.6	0.7	0.9	0.8	-0.9	1.4	-8.9	-5.9	-1.1	-3.5	1.7	0.9	-1.6
STD ERROR	0.7	1.0	0.8	0.8	0.4	0.4	2.5	3.4	0.6	1.3	0.9	0.9	0.9	0.4	2.6	3.0	2.6	3.6	0.5	0.5	0.6

EXER: 0659 NATL % 91.2 (Text for this exercise was not released)

UNADJ EFFECT	1.5	-4.6	1.6	0.1	-0.9	0.9	-7.9	-7.8	5.0	-0.3	0.6	1.7	1.1	2.0	-8.2	-7.5	-5.5	-1.6	0.6	3.7	-3.4
STD ERROR	1.2	1.9	1.3	1.2	0.8	0.7	4.7	3.0	1.4	2.2	1.8	1.1	1.4	0.4	1.9	2.5	3.8	2.4	1.1	0.9	1.1
BAL EFFECT	0.9	-3.6	1.4	0.1	-1.1	1.0	-6.2	-1.8	3.0	-0.9	-0.7	1.5	0.9	1.5	-6.3	-5.8	-3.1	-0.7	1.0	3.1	-3.4
STD ERROR	1.2	1.5	1.2	1.0	0.7	0.7	4.1	2.8	1.4	2.0	1.6	1.0	1.2	0.4	1.9	2.6	3.6	2.5	1.1	0.8	1.0

EXER: 0660 NATL % 91.1 (Text for this exercise was not released)

UNADJ EFFECT	1.1	-3.1	2.5	-1.6	0.6	-0.7	-19.3	-6.7	4.1	0.3	1.7	3.3	0.9	2.6	-8.0	-16.7	-9.1	-10.9	0.9	3.1	-0.6
STD ERROR	1.5	1.8	1.4	2.5	0.7	0.8	8.0	4.0	1.8	2.3	1.9	1.5	1.5	0.9	2.2	7.8	4.2	5.0	1.0	1.0	1.0
BAL EFFECT	-1.0	-1.1	1.5	0.2	0.5	-0.5	-15.0	-1.1	2.0	1.2	0.4	2.6	0.6	1.9	-5.5	-12.5	-5.9	-7.0	1.1	1.7	-0.5
STD ERROR	1.2	1.7	1.5	1.3	0.7	0.8	6.4	3.8	1.8	2.6	1.7	1.4	1.3	0.7	2.3	5.4	3.2	3.5	1.0	0.7	0.8

EXER: 0661 NATL % 87.1 (Text for this exercise was not released)

UNADJ EFFECT	2.8	-8.2	2.7	1.1	-0.4	0.4	-7.5	-15.0	7.5	0.7	5.6	-1.9	-2.3	4.3	-22.9	-6.7	-13.0	-10.0	2.6	4.3	-2.2
STD ERROR	1.8	3.6	2.0	1.8	0.8	0.8	8.1	6.2	2.3	3.7	2.0	2.6	2.4	1.0	3.4	4.1	6.9	4.8	1.3	1.3	1.1
BAL EFFECT	0.1	-2.4	1.4	0.3	-0.9	0.8	-1.3	-0.5	4.7	0.9	2.4	-2.3	-2.7	3.9	-20.8	-5.6	-10.5	-8.3	2.7	2.3	-1.2
STD ERROR	1.5	2.0	1.9	1.7	0.8	0.7	4.2	5.9	2.0	2.8	1.8	1.9	1.9	0.9	3.2	4.3	5.6	4.7	1.4	1.0	1.1

EXER: 0662 NATL % 81.2 (Text for this exercise was not released)

UNADJ EFFECT	5.7	-13.0	5.7	-2.5	0.8	-1.0	-27.0	-24.1	8.7	-6.4	8.3	0.8	1.3	4.3	-19.9	-17.3	-21.0	-4.4	1.1	7.6	-3.9
STD ERROR	1.4	3.9	2.0	2.3	0.8	0.9	9.4	3.9	2.3	4.8	2.3	2.4	2.3	0.8	3.2	4.5	5.3	3.2	1.9	1.5	1.6
BAL EFFECT	2.4	-7.4	3.3	-0.6	0.4	-0.5	-19.8	-14.0	4.3	-4.0	5.4	1.3	0.8	2.6	-11.0	-12.0	-15.8	0.0	1.4	4.6	-2.8
STD ERROR	1.7	2.5	1.7	2.1	0.8	0.9	7.7	4.2	2.1	3.4	2.1	2.1	1.9	0.7	3.2	3.9	4.4	2.7	1.8	1.2	1.5

EXER: 0663 NATL % 76.2 (Text for this exercise was not released)

UNADJ EFFECT	2.6	-5.9	2.2	-0.8	1.8	-1.7	-1.1	-24.2	4.5	6.1	0.6	0.2	4.5	4.7	-18.6	-19.6	-1.7	0.3	3.6	4.1	-6.7
STD ERROR	2.8	3.0	2.2	2.4	1.0	1.0	5.1	5.3	6.6	4.0	2.7	2.5	2.2	0.9	3.9	3.3	4.6	4.5	2.0	1.8	2.0
BAL EFFECT	2.5	-5.6	0.7	0.9	1.5	-1.5	2.1	-10.8	0.5	5.6	-1.9	-0.7	3.7	3.8	-13.8	-18.5	2.4	0.1	3.4	2.9	-5.8
STD ERROR	2.7	2.5	1.9	2.5	1.0	0.9	4.0	4.9	6.7	4.4	2.6	2.4	2.1	0.8	3.7	3.7	4.3	4.3	1.9	1.8	1.9

EXER: 0664 NATL % 78.4 (Text for this exercise was not released)

UNADJ EFFECT	4.0	-11.4	2.8	1.1	0.3	-0.4	-18.8	-23.1	8.3	-5.3	6.9	0.6	3.7	4.9	-25.6	-15.4	-9.1	-3.5	4.1	6.2	-8.0
STD ERROR	2.0	2.5	2.3	2.4	1.1	1.3	3.4	3.1	2.1	3.7	2.4	2.8	2.3	0.8	1.9	4.6	5.6	3.5	1.9	1.4	1.7
BAL EFFECT	1.0	-8.3	1.9	3.0	-0.1	0.1	-11.1	-9.8	4.4	-4.4	3.4	-0.1	3.0	3.5	-17.1	-12.7	-5.7	1.4	4.4	3.5	-7.2
STD ERROR	1.9	2.3	1.8	2.0	1.1	1.2	3.8	3.2	1.9	3.3	2.3	2.3	1.9	0.7	2.0	5.1	5.8	3.6	1.8	1.3	1.5

EXER: 0665 NATL % 70.3 (Text for this exercise was not released)

UNADJ EFFECT	3.1	-7.5	5.4	-2.8	-1.3	1.3	-4.5	-35.7	13.8	1.8	6.1	-2.4	1.3	5.5	-27.3	-21.7	-23.3	-14.6	0.9	9.3	-6.0
STD ERROR	2.1	4.2	2.5	2.5	1.0	1.0	6.3	3.0	3.3	3.6	2.9	3.2	2.3	0.9	3.4	6.0	5.5	4.9	2.4	1.6	1.8
BAL EFFECT	0.3	-1.9	2.6	-1.6	-1.8	1.8	-0.6	-21.2	8.3	4.0	3.5	-3.0	0.2	3.8	-19.1	-15.2	-19.0	-10.8	0.4	7.2	-4.4
STD ERROR	2.1	2.9	2.3	2.4	1.0	1.0	3.6	2.9	3.3	3.5	2.8	2.8	2.4	0.8	3.3	5.1	5.5	4.8	2.1	1.5	1.8

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME APP SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: U666 NATL % 66.5 (Text for this exercise was not released)																					
UNADJ EFFECT	1.4	-6.6	3.1	0.6	0.2	-0.2	4.9	-13.9	7.1	-6.0	2.1	-3.9	2.1	3.8	-17.7	-12.0	-5.5	-2.0	-0.1	5.9	-3.9
STD ERROR	2.4	2.3	2.7	2.4	1.1	1.1	6.8	5.3	3.1	5.3	3.1	2.5	2.5	0.7	3.2	4.3	7.3	5.1	1.8	1.7	1.6
BAL EFFECT	0.6	-4.1	1.5	1.2	-0.1	0.1	10.8	-0.2	1.8	-5.1	-1.0	-4.0	2.1	3.7	-16.4	-13.0	-3.4	-1.2	-0.2	4.5	-3.1
STD ERROR	2.3	2.3	2.5	2.3	1.1	1.1	3.8	6.1	2.9	4.7	2.9	2.1	2.5	0.7	3.3	4.4	7.1	5.0	1.8	1.7	1.5
EXER: U667 NATL % 63.4 (Text for this exercise was not released)																					
UNADJ EFFECT	10.8	-6.9	4.4	-12.4	3.6	-4.1	-16.1	-33.1	13.3	-16.6	1.8	3.1	7.9	6.6	-29.2	-29.0	-4.5	-12.2	1.3	10.9	-8.2
STD ERROR	2.1	1.3	1.9	2.6	1.1	1.3	6.2	4.8	3.6	4.5	2.6	2.4	2.2	1.0	3.4	4.6	4.1	4.6	1.9	1.6	1.6
BAL EFFECT	7.8	-3.5	1.9	-8.6	3.0	-3.4	-9.2	-15.1	6.4	-10.2	-2.5	3.7	6.7	4.4	-20.8	-16.4	-1.6	-9.8	0.1	7.9	-5.5
STD ERROR	2.1	2.2	1.8	2.1	1.0	1.3	4.6	4.2	3.2	4.0	2.2	2.3	1.8	0.9	4.0	4.8	3.7	4.8	1.7	1.6	1.5
EXER: U668 NATL % 63.7 (Text for this exercise was not released)																					
UNADJ EFFECT	4.6	-12.0	5.0	-0.3	-0.9	0.8	-5.9	-23.5	7.2	-2.3	9.0	-3.5	-1.7	6.0	-27.9	-18.3	-16.8	-13.6	5.3	8.3	-6.5
STD ERROR	2.3	1.2	2.6	2.3	1.1	1.1	9.4	4.6	4.6	5.4	2.6	2.5	2.7	1.0	3.2	4.7	6.2	4.8	2.5	1.9	1.8
BAL EFFECT	1.9	-6.3	2.4	0.7	-1.6	1.6	2.8	-3.7	2.7	-1.5	4.3	-3.9	-1.8	5.1	-22.9	-16.9	-12.5	-11.5	5.1	6.1	-5.4
STD ERROR	2.0	2.2	2.3	1.9	1.1	1.1	5.6	4.3	3.5	4.5	2.3	1.8	2.3	0.9	3.5	4.9	5.5	4.3	2.5	1.6	1.7
EXER: U669 NATL % 52.7 (Text for this exercise was not released)																					
UNADJ EFFECT	8.5	1.3	-0.5	-9.6	-1.5	1.5	-3.4	-7.9	11.9	-4.1	-1.3	-0.4	2.4	2.3	-8.8	-14.5	-12.3	2.6	-1.0	6.9	-6.4
STD ERROR	2.8	3.2	2.8	3.2	1.3	1.3	7.4	5.5	4.8	3.8	3.9	2.3	3.5	0.7	3.8	5.2	4.8	4.1	2.4	2.0	1.8
BAL EFFECT	7.8	2.6	-1.5	-8.9	-1.6	1.6	-0.5	-0.1	8.9	-2.2	-1.9	-1.7	1.3	1.7	-8.2	-7.2	-11.3	4.3	-1.5	5.9	-5.4
STD ERROR	2.7	3.1	2.6	2.9	1.3	1.3	7.0	4.8	4.6	3.6	3.8	2.3	3.3	0.7	3.8	5.1	4.8	4.3	2.5	2.0	1.9
EXER: U670 NATL % 47.9 (Text for this exercise was not released)																					
UNADJ EFFECT	0.4	-4.2	2.7	-0.4	3.9	-4.5	-7.2	-17.1	0.7	-8.5	5.0	0.4	3.1	2.9	-12.0	-13.7	-6.7	-0.2	2.8	6.3	-6.9
STD ERROR	1.9	2.6	2.4	2.1	1.2	1.4	8.0	4.5	5.1	4.0	2.3	2.3	2.9	0.6	3.3	4.7	4.9	4.1	2.1	1.8	1.8
BAL EFFECT	-0.9	-2.5	0.4	2.8	3.6	-4.2	-4.6	-8.3	-2.7	-5.7	3.6	0.7	2.1	2.0	-7.4	-11.5	-5.3	1.1	2.8	4.9	-5.8
STD ERROR	1.7	2.2	2.3	2.5	1.1	1.3	6.6	5.4	5.1	3.8	2.1	2.3	2.7	0.7	3.6	5.1	4.9	4.3	2.0	1.7	1.7
EXER: U671 NATL % 31.3 (Text for this exercise was not released)																					
UNADJ EFFECT	2.8	-10.3	6.0	-2.3	3.7	-3.8	-6.3	-18.6	-0.4	-0.0	9.4	-3.6	3.8	2.2	-8.4	-10.7	2.4	-1.6	-0.3	7.0	-6.0
STD ERROR	2.2	2.2	3.1	2.4	1.1	1.2	5.3	2.5	3.7	3.6	4.1	2.6	2.8	0.6	2.6	3.3	6.0	4.8	2.5	1.6	1.7
BAL EFFECT	1.9	-8.8	5.4	-1.9	3.3	-3.5	-5.9	-15.5	1.1	-0.7	6.0	-3.4	5.3	0.5	-1.7	-2.5	3.7	0.4	-0.9	5.9	-5.1
STD ERROR	2.5	2.2	2.8	2.4	1.1	1.1	6.1	2.9	3.4	3.4	3.9	2.7	2.6	0.5	2.3	3.4	6.1	4.3	2.2	1.6	1.5
EXER: U672 NATL % 19.2 (Text for this exercise was not released)																					
UNADJ EFFECT	1.0	-2.9	3.7	-2.8	0.8	-0.9	-4.6	-1.7	6.9	3.1	4.4	-3.9	-4.2	0.9	-3.3	-5.3	-5.8	-9.0	-0.9	6.2	-3.3
STD ERROR	1.7	2.5	2.0	1.6	0.8	1.0	3.5	3.3	4.7	2.8	2.7	1.9	1.6	0.5	2.5	3.1	3.4	2.5	1.5	1.3	1.1
BAL EFFECT	-0.5	-0.2	3.4	-3.0	0.6	-0.7	-2.8	0.4	5.4	4.6	3.3	-4.1	-3.8	0.4	-1.8	-1.3	-4.6	-6.4	-0.8	5.7	-3.5
STD ERROR	1.8	2.5	2.1	1.7	0.9	1.0	3.3	3.5	5.1	2.8	2.4	2.1	1.6	0.5	2.6	3.2	3.6	2.5	1.6	1.3	1.1

EXER: 0673 NATL % 11.8 (Text for this exercise was not released)

UNADJ EFFECT	2.9	-0.2	-1.2	-1.2	1.3	-1.3	3.1	8.6	-1.8	0.5	-1.4	1.6	-2.7	-0.9	3.3	5.3	-0.3	6.2	0.3	-2.1	1.3
STD ERROR	1.6	2.1	1.7	1.4	0.7	0.7	2.2	1.5	2.5	2.8	1.9	1.9	1.9	0.4	2.0	3.9	3.0	3.8	1.4	1.0	1.1
BAL EFFECT	2.9	-0.6	-0.9	-1.2	1.4	-1.4	3.1	6.1	-0.7	0.5	-1.5	1.6	-2.7	-0.5	2.0	3.8	-0.8	7.0	0.3	-1.6	0.7
STD ERROR	1.6	2.2	1.8	1.5	0.7	0.7	2.3	3.3	2.6	2.8	1.8	1.8	2.0	0.4	2.0	4.0	2.8	3.8	1.4	1.0	1.1

OBJECTIVE: Understand the investigative nature of science.

EXER: 0674 NATL % 93.8 (Text for this exercise was not released)

UNADJ EFFECT	2.0	-4.0	2.4	-2.0	-0.8	0.9	-10.8	-10.3	5.5	-3.6	1.8	1.8	0.5	2.1	-7.9	-11.5	-6.4	-7.3	1.7	3.5	-2.1
STD ERROR	0.8	1.6	0.9	1.5	0.5	0.6	4.5	3.5	0.9	3.1	1.0	1.1	1.0	0.5	1.7	4.1	2.9	2.9	1.0	0.8	0.9
BAL EFFECT	0.4	-1.8	1.3	-0.6	-1.0	1.1	-8.1	-5.8	3.4	-1.8	0.6	2.1	-0.1	1.4	-4.9	-8.6	-4.4	-5.9	1.5	2.3	-1.4
STD ERROR	0.7	1.4	0.9	0.9	0.5	0.5	4.0	3.5	0.8	2.0	1.1	1.1	1.0	0.4	1.9	3.4	3.1	2.8	0.9	0.7	0.8

EXER: 0675 NATL % 75.1 (Text for this exercise was not released)

UNADJ EFFECT	1.1	-4.7	4.2	-2.2	-2.1	2.4	-28.1	-28.9	15.2	-4.9	3.0	5.0	3.8	7.0	-26.9	-37.3	-20.1	-19.7	1.2	10.2	-5.3
STD ERROR	2.4	2.6	2.3	3.8	0.9	1.0	9.0	5.9	2.2	3.4	3.3	2.2	2.8	1.3	2.4	7.1	5.5	4.3	1.4	1.2	1.7
BAL EFFECT	-3.6	-1.4	2.6	1.9	-2.4	2.6	-18.1	-11.6	9.3	-2.2	-0.1	2.8	2.7	5.2	-19.4	-29.0	-14.3	-12.2	1.7	6.6	-4.1
STD ERROR	2.0	2.1	1.8	1.8	0.9	1.0	5.4	3.9	1.9	2.8	3.0	1.8	2.0	1.0	2.4	5.2	4.4	3.8	1.5	0.9	1.6

EXER: 0676 NATL % 41.7 (Text for this exercise was not released)

UNADJ EFFECT	6.9	-2.8	-3.8	-0.1	-0.1	0.1	-8.0	-17.4	9.7	0.7	1.9	1.0	2.1	2.4	-11.4	-6.0	-2.4	-11.3	2.3	5.9	-5.8
STD ERROR	2.9	3.3	2.5	2.8	1.3	1.2	5.4	3.3	5.5	3.0	4.1	2.6	3.0	0.7	2.9	4.4	4.6	4.8	2.3	1.6	1.6
BAL EFFECT	6.4	-1.4	-4.0	-0.5	-0.3	0.3	-5.4	-11.5	4.9	0.4	0.8	0.4	2.9	1.3	-6.8	-2.1	-0.4	-9.9	2.0	5.1	-5.3
STD ERROR	2.6	2.8	2.4	2.8	1.3	1.3	5.0	3.6	5.3	2.9	3.9	2.4	2.9	0.7	3.0	5.0	4.6	5.0	2.2	1.7	1.5

EXER: 0677 NATL % 33.4 (Text for this exercise was not released)

UNADJ EFFECT	2.8	6.2	-5.6	-1.1	-1.4	1.4	-9.3	-2.2	6.1	2.8	0.8	2.3	-3.9	-0.2	-1.9	7.6	-7.0	-0.8	-2.0	7.2	-5.9
STD ERROR	2.4	2.4	2.5	2.8	1.1	1.2	3.6	3.4	4.1	4.7	1.8	2.8	2.8	0.6	3.5	4.7	4.3	5.3	2.3	1.6	1.6
BAL EFFECT	2.9	7.8	-4.7	-3.8	-1.5	1.6	-8.1	-3.7	2.9	5.5	1.8	2.1	-3.7	-0.8	-0.6	12.3	-8.3	-2.0	-1.4	7.3	-6.1
STD ERROR	2.2	2.1	2.7	3.1	1.1	1.1	4.0	4.0	3.5	4.3	3.7	2.9	2.9	0.7	3.8	4.7	4.4	5.4	2.2	1.5	1.7

EXER: 0678 NATL % 26.1 (Text for this exercise was not released)

UNADJ EFFECT	-2.4	2.2	0.6	-0.2	-3.5	3.7	-13.0	-11.4	5.6	-5.8	-0.4	3.4	3.4	1.2	-2.8	-11.7	-4.6	-11.2	-2.1	6.8	-3.5
STD ERROR	2.1	2.8	2.1	2.5	1.3	1.3	3.8	3.7	4.0	3.2	2.7	2.5	2.7	0.5	3.5	2.6	4.6	3.0	1.7	1.6	1.7
BAL EFFECT	-3.7	1.8	1.5	0.5	-3.6	3.9	-13.1	-8.3	4.0	-3.6	-1.0	3.9	2.5	0.4	1.8	-8.1	-1.6	-9.5	-2.3	5.9	-3.1
STD ERROR	2.0	2.3	1.9	2.4	1.2	1.3	3.8	4.0	4.0	3.1	2.6	2.4	2.5	0.5	4.2	2.6	5.0	3.2	1.7	1.6	1.7

EXER: 0679 NATL % 22.1 (Text for this exercise was not released)

UNADJ EFFECT	0.3	-2.4	2.0	-0.4	-0.3	0.3	-7.4	-11.5	8.9	-4.3	-1.7	3.0	0.6	2.4	-12.6	-13.1	-7.1	-1.4	-1.2	6.2	-4.7
STD ERROR	2.1	2.4	2.2	2.1	0.9	1.0	2.5	2.0	4.4	2.8	2.8	2.4	2.4	0.4	2.1	2.4	4.3	4.8	2.0	1.5	1.4
BAL EFFECT	-0.8	-2.9	3.0	0.2	-0.5	0.6	-5.8	-4.8	7.5	-2.4	-2.9	2.8	-0.6	1.8	-8.9	-11.0	-4.0	1.3	-1.2	4.8	-4.0
STD ERROR	2.1	2.4	2.0	2.1	0.9	1.0	2.8	2.6	4.4	2.9	2.4	2.3	2.3	0.4	2.4	3.0	4.3	4.7	1.9	1.6	1.4

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN

OBJECTIVE: Have attitudes about and appreciation of scientists, science, and the consequences of science that stem from adequate understandings.

EXER: U680 NATL % 86.0 (Text for this exercise was not released)

UNADJ EFFECT	2.8	-6.2	-2.1	4.5	-4.7	4.9	-9.5	-5.6	2.6	-2.9	1.7	1.5	2.1	1.3	-7.2	-2.2	-14.5	-5.4	-0.4	4.9	-1.2
STD ERROR	1.7	2.3	2.2	1.5	1.1	1.1	5.7	2.0	3.2	3.5	2.9	1.8	1.8	0.5	2.4	3.2	4.0	3.3	1.7	1.0	1.3
BAL EFFECT	2.2	-5.1	-1.7	3.8	-4.5	4.6	-5.3	-2.7	0.8	-3.3	0.3	0.8	2.8	0.7	-3.0	-2.6	-12.5	-3.3	-0.4	4.3	-1.3
STD ERROR	1.7	2.3	1.8	1.4	1.0	1.0	5.7	3.0	3.5	3.6	2.6	1.8	1.6	0.5	2.8	3.6	3.6	3.1	1.5	1.0	1.3

EXER: U681 NATL % 83.4 (Text for this exercise was not released)

UNADJ EFFECT	-0.7	-2.5	1.2	1.4	0.8	-0.7	-3.0	-14.6	0.5	0.8	5.7	-2.8	0.3	2.4	-10.7	-9.0	-5.9	-9.6	1.8	5.5	-3.7
STD ERROR	1.8	2.1	1.5	1.8	1.1	1.1	6.2	4.0	3.9	3.0	1.5	1.9	1.6	0.6	2.7	3.6	4.5	3.9	1.5	1.2	1.4
BAL EFFECT	-1.9	-0.3	-0.3	2.7	0.4	-0.4	0.1	-7.3	-2.2	2.3	4.1	-3.2	0.3	1.9	-7.8	-8.7	-4.5	-8.7	1.8	4.4	-3.1
STD ERROR	1.6	1.8	1.5	1.8	1.1	1.1	5.0	4.7	3.8	2.5	1.3	1.9	1.5	0.7	3.1	4.0	4.3	4.1	1.5	1.2	1.5

EXER: U682 NATL % 72.0 (Text for this exercise was not released)

UNADJ EFFECT	2.5	-6.8	3.0	-0.4	2.4	-2.5	-0.2	-32.7	13.2	-5.8	0.6	4.7	-2.4	4.4	-21.0	-18.4	-22.2	-5.4	-0.5	9.4	-6.9
STD ERROR	2.5	3.5	2.1	2.7	1.1	1.2	4.4	3.7	2.7	4.4	2.8	2.0	2.5	0.8	4.3	4.6	5.3	5.1	2.6	1.3	2.0
BAL EFFECT	2.2	-6.2	1.7	1.2	2.1	-2.2	3.6	-22.6	8.4	-5.2	-1.7	4.5	-1.2	2.5	-13.0	-8.0	-15.7	-3.3	-0.1	7.1	-5.7
STD ERROR	2.3	3.0	2.1	2.1	1.2	1.2	5.4	3.9	3.0	4.0	2.6	1.8	2.3	0.7	1.9	4.1	5.1	4.9	2.5	1.2	1.9

EXER: U683 NATL % 70.7 (Text for this exercise was not released)

UNADJ EFFECT	3.6	-7.1	0.7	2.0	1.9	-2.0	-8.0	-13.8	12.1	1.2	0.7	1.6	-3.0	2.6	-12.5	-16.2	-17.6	0.4	-0.7	6.0	-3.7
STD ERROR	2.0	2.4	2.0	2.0	1.2	1.3	5.3	3.9	3.0	3.2	2.4	1.9	2.6	0.6	4.3	2.9	5.8	5.4	2.2	1.7	1.8
BAL EFFECT	1.9	-7.3	1.5	3.2	1.7	-1.9	-3.5	-6.9	10.1	2.0	-0.8	0.6	-3.2	2.1	-7.9	-16.6	-13.4	4.5	-0.1	4.2	-3.4
STD ERROR	1.9	2.1	1.9	2.0	1.2	1.3	3.9	4.4	3.4	3.0	2.5	1.8	2.2	0.6	4.2	3.6	5.7	5.5	2.1	1.8	1.8

EXER: U684 NATL % 62.5 (Text for this exercise was not released)

UNADJ EFFECT	4.7	-8.8	-1.7	4.1	0.6	-0.5	-9.3	-13.4	12.6	4.1	5.4	-1.1	-2.9	3.1	-11.6	-14.4	-9.0	-8.9	-4.5	7.4	-2.3
STD ERROR	2.4	2.3	2.1	1.9	1.3	1.3	3.4	3.6	3.6	3.4	2.9	2.6	2.3	0.7	3.3	3.5	5.9	5.9	2.5	1.5	1.7
BAL EFFECT	3.0	-5.8	-2.6	4.7	0.4	-0.4	-4.2	-6.1	6.2	3.4	3.8	-1.6	-2.1	2.4	-7.4	-14.7	-5.2	-6.6	-3.9	6.0	-2.1
STD ERROR	2.4	2.6	2.1	1.8	1.4	1.3	3.3	4.1	3.7	3.2	2.8	2.5	2.4	0.7	3.4	3.7	5.9	6.0	2.5	1.5	1.8

EXER: U685 NATL % 46.5 (Text for this exercise was not released)

UNADJ EFFECT	-1.4	-11.8	4.4	6.5	-0.1	0.1	-12.5	-15.2	10.1	-1.0	-0.8	3.0	1.5	3.4	-20.2	-0.7	-5.9	-3.5	0.8	4.8	-3.4
STD ERROR	2.7	3.7	2.9	2.6	1.4	1.4	7.5	4.8	5.3	6.2	2.7	3.1	3.2	0.9	3.5	4.8	7.1	5.6	2.5	2.1	1.7
BAL EFFECT	-3.3	-8.9	5.1	5.0	-0.4	0.3	-8.4	-6.6	7.0	-1.8	-3.8	3.6	2.9	2.5	-14.3	-1.8	-2.9	-3.2	1.1	2.8	-2.3
STD ERROR	2.6	3.6	2.5	2.6	1.3	1.3	5.4	4.8	5.1	5.8	2.7	2.6	2.6	0.7	3.3	4.8	6.2	5.4	2.5	2.2	1.6

EXER: U686 NATL % 43.8 (Text for this exercise was not released)

UNADJ EFFECT	2.5	-5.2	3.4	-2.5	2.3	-2.3	3.0	-12.9	-1.0	-2.1	7.8	0.2	-4.6	1.8	-7.6	-9.9	-2.5	-4.8	1.2	3.3	-5.4
STD ERROR	2.2	2.4	2.8	3.0	1.3	1.3	5.4	3.5	3.8	4.3	2.6	3.4	2.2	0.6	3.3	4.8	8.1	4.8	2.4	1.5	2.4
BAL EFFECT	2.2	-3.7	2.1	-1.8	2.0	-2.1	3.6	-8.0	-2.1	-1.4	6.6	-0.1	-4.5	1.0	-3.9	-6.3	0.2	-2.4	0.8	2.7	-4.7
STD ERROR	2.2	2.9	2.8	3.2	1.3	1.3	5.3	4.0	4.0	4.3	2.7	3.4	2.4	0.7	3.5	5.8	8.1	4.7	2.3	1.5	2.3

EXER: U687 NATL % 29.8 (Text for this exercise was not released)

UNADJ EFFECT	3.7	-4.8	0.6	-0.8	3.6	-3.8	-6.2	-0.5	0.3	4.7	1.1	-1.7	1.9	0.7	-4.0	-0.6	-10.1	-8.1	3.6	1.6	-1.5
STD ERROR	2.4	1.7	1.7	1.5	1.1	1.2	3.3	2.8	2.5	3.2	2.9	1.8	1.9	0.4	2.6	2.8	3.9	3.7	2.2	1.6	1.6
BAL EFFECT	2.9	-3.5	0.5	-0.9	3.7	-3.9	-4.7	1.3	-0.3	4.0	-0.8	-1.6	3.2	0.3	-2.4	0.7	-10.0	-7.2	3.8	1.5	-1.6
STD ERROR	2.2	1.8	1.9	1.6	1.1	1.2	3.1	3.6	2.7	3.4	2.9	1.8	1.8	0.5	2.7	3.4	3.9	3.7	2.1	1.6	1.6

AGE 13

OBJECTIVE: Know the fundamental facts and principles of science.

EXER: R201 NATL % 98.5 A human baby comes from its mother's body.

UNADJ EFFECT	0.9	1.0	0.5	-2.5	0.2	-0.2	0.2	-9.0	1.5	-0.3	1.1	1.3	-0.1	1.0	-5.6	-1.0	-1.0	1.2	0.2	1.2	-7.8
STD ERROR	0.8	0.9	0.9	2.4	0.3	0.3	1.0	8.4	0.8	1.2	0.8	0.8	1.0	0.8	4.8	1.1	1.7	0.8	0.8	0.8	7.0
BAL EFFECT	0.6	1.5	0.2	-2.8	0.4	-0.3	-0.6	-6.0	1.0	1.5	1.0	0.8	1.3	0.4	-3.5	-98.1	-1.4	1.1	0.3	0.9	-6.3
STD ERROR	0.8	1.3	0.8	2.5	0.4	0.3	0.6	6.0	0.6	2.4	0.7	0.4	0.8	0.2	2.4	3.3	1.5	0.6	0.8	0.6	5.3

EXER: R202 NATL % 98.2 Teeth are brushed to keep them from decaying.

UNADJ EFFECT	0.5	-1.8	-0.4	1.3	-0.3	0.4	-4.1	-1.6	0.1	0.3	0.2	0.9	0.8	0.7	-2.7	-2.2	-2.7	-1.0	-0.1	0.4	0.6
STD ERROR	0.4	0.9	0.5	0.4	0.3	0.3	1.7	1.1	0.9	0.7	0.6	0.4	0.5	0.2	1.0	1.4	1.9	1.2	0.4	0.4	0.5
BAL EFFECT	0.2	-1.3	-0.4	1.3	-0.4	0.4	-3.0	0.0	-0.8	0.4	-0.3	0.7	0.7	0.7	-2.6	-2.5	-1.7	-0.4	-0.2	0.1	1.2
STD ERROR	0.4	0.6	0.4	0.4	0.3	0.3	1.4	1.3	0.8	0.6	0.6	0.4	0.5	0.3	1.1	1.4	1.6	1.1	0.4	0.3	0.6

EXER: R203 NATL % 92.7 Thick dark-gray clouds are more likely than others to bring rain on a summer day.

UNADJ EFFECT	0.5	-0.8	2.7	-2.5	1.0	-0.8	0.4	-2.1	-0.1	-2.4	1.5	-0.2	1.0	0.7	-3.7	-2.4	-3.2	-0.7	0.4	0.8	-3.1
STD ERROR	1.0	1.0	1.0	1.2	0.6	0.5	2.3	1.9	1.6	1.9	1.5	1.4	1.0	0.3	1.7	2.2	3.9	1.6	0.9	0.6	2.4
BAL EFFECT	0.4	-0.4	2.6	-2.6	0.8	-0.8	0.3	-1.0	-0.1	-2.2	0.9	-0.1	0.8	0.4	-2.8	0.3	-2.9	-0.3	0.0	0.7	-2.0
STD ERROR	1.2	1.1	1.1	1.3	0.5	0.5	2.5	2.1	1.5	1.9	1.8	1.3	1.2	0.4	2.0	2.2	3.8	1.7	1.0	0.6	2.4

EXER: R204 NATL % 89.4 Choose from five alternatives, the best balanced meal.

UNADJ EFFECT	0.9	-4.4	2.7	-0.6	-2.3	2.0	-3.9	-7.7	4.4	-1.2	2.7	1.7	-1.8	2.4	-8.5	-14.1	-8.7	-3.1	-1.2	4.6	-11.2
STD ERROR	1.4	1.6	1.2	1.4	0.7	0.6	2.9	2.8	1.9	3.2	1.4	1.6	1.7	0.5	1.9	3.3	5.4	1.9	1.2	0.7	3.4
BAL EFFECT	-0.8	-2.6	1.6	1.1	-1.8	1.7	-4.7	-0.5	1.2	2.3	1.6	0.8	-1.7	1.9	-5.3	-13.8	-3.8	-1.9	-1.1	3.7	-10.3
STD ERROR	1.4	1.8	1.1	1.5	0.7	0.6	2.5	2.9	1.8	2.0	1.5	1.5	1.6	0.5	2.2	3.5	4.4	1.8	1.1	0.7	3.5

EXER: R205 NATL % 85.7 A school room is most comfortable around 70 degrees F.

UNADJ EFFECT	5.8	-10.6	5.0	-2.8	1.6	-1.4	-15.4	-15.0	7.3	2.0	2.3	5.2	-2.5	4.8	-23.4	-13.2	-14.3	-5.9	-0.5	4.0	-6.5
STD ERROR	1.5	3.2	1.6	2.1	0.8	0.8	3.3	4.1	2.0	3.0	2.7	1.8	2.9	0.9	3.5	3.7	4.9	3.0	1.3	0.7	3.1
BAL EFFECT	4.0	-4.5	3.1	-4.1	1.3	-1.2	-7.7	-0.8	2.9	4.2	-0.2	1.5	-2.3	4.0	-19.9	-10.0	-10.0	-1.3	-0.6	2.2	-3.8
STD ERROR	1.1	2.2	1.1	1.7	0.8	0.7	3.4	4.0	1.8	2.7	2.4	1.4	2.1	0.9	3.7	4.3	4.2	2.6	1.2	0.7	2.9

EXER: R206 NATL % 78.5 Fanning a fire makes it burn better because fanning increases the supply of oxygen to the fire.

UNADJ EFFECT	1.9	-9.0	3.7	1.7	3.6	-3.0	-12.3	-28.5	8.8	-4.5	1.9	5.4	4.4	6.6	-28.4	-27.3	-10.3	-10.1	-3.0	7.6	-15.3
STD ERROR	2.1	3.1	1.6	2.2	1.1	1.0	7.7	3.9	2.4	3.8	2.2	2.2	2.2	1.0	2.6	5.2	6.0	3.7	1.5	1.1	3.7
BAL EFFECT	1.0	-3.8	0.9	1.3	3.6	-3.1	-3.3	-7.8	2.2	-1.1	-1.4	1.1	3.7	5.3	-21.9	-23.0	-5.0	-5.5	-3.0	5.2	-9.6
STD ERROR	1.8	2.2	1.5	1.8	1.1	1.0	5.5	3.5	2.5	3.5	2.0	1.8	2.0	0.9	2.9	4.9	4.5	3.6	1.4	1.0	3.6

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME SUB.	INNER SUB.	URBAN FRINGE	REGION FRINGE	SMALL CITY	NON BLACK	BLACK	OTHER	SOME	SOME	GRADUATED	POST	UNKNOWN
REFR: R207 NATL % 77.9	Cancer is a disease that cannot, at present, be controlled by a vaccine.																				
UNADJ PPPCT	1.6	-1.4	0.6	0.9	0.2	-0.1	-4.4	-18.9	8.8	-6.6	8.1	2.2	-1.9	3.3	-17.3	-4.9	-10.3	-7.5	-3.3	6.2	-7.7
STD ERROR	1.8	2.1	1.8	1.6	1.0	1.0	5.2	2.9	2.5	3.3	2.2	1.9	2.8	0.6	2.6	3.8	6.2	2.9	1.5	1.2	2.7
BAL PPPCT	0.5	-0.6	-0.1	0.1	-0.1	0.1	-2.6	-6.7	5.8	-2.7	2.1	0.9	-1.6	2.8	-13.8	-6.0	-7.3	-5.3	-3.2	8.8	-8.6
STD ERROR	1.8	2.0	1.7	1.5	0.9	0.9	4.5	3.2	2.4	3.0	2.3	1.9	2.1	0.6	2.8	3.8	6.4	3.1	1.5	1.3	2.8
REFR: R208 NATL % 74.7	From without atmosphere on the moon, a rocket can be launched.																				
UNADJ PPPCT	0.5	-3.3	-0.8	3.5	3.8	-3.3	-2.5	-11.9	5.1	8.4	3.9	1.7	-1.9	2.9	-12.8	-7.7	-10.1	-2.4	-0.9	1.5	3.4
STD ERROR	2.2	2.4	1.8	1.8	1.0	1.0	3.5	2.9	3.7	1.5	2.0	2.0	2.9	0.7	2.9	6.4	4.9	3.3	1.8	1.3	2.6
BAL PPPCT	-0.9	-0.3	-7.0	8.0	1.3	-1.1	0.3	-6.6	2.8	5.0	2.2	1.8	-4.1	2.8	-11.2	-9.7	-6.3	-0.4	-1.0	0.2	5.9
STD ERROR	2.0	2.2	1.6	1.7	1.1	1.0	3.8	3.3	3.1	3.6	2.1	1.9	2.8	0.8	3.0	6.2	5.0	3.5	1.8	1.3	2.7
REFR: R209 NATL % 65.1	Sedimentary rock is usually formed in layers.																				
UNADJ PPPCT	1.5	-1.4	1.9	-2.1	2.9	-2.6	-7.5	-30.6	11.9	-6.0	5.7	-0.1	8.7	5.2	-28.5	-20.0	-10.3	-1.9	-3.3	6.8	-10.3
STD ERROR	3.0	3.5	3.4	2.9	1.0	1.0	5.7	8.7	8.8	5.5	4.0	3.0	3.5	0.7	2.9	6.4	5.6	3.0	1.6	1.2	4.0
BAL PPPCT	0.8	0.2	1.2	-2.0	2.6	-2.5	-6.4	-19.6	9.0	-2.7	2.9	-1.5	4.2	3.6	-17.0	-13.8	-8.9	1.6	-1.9	4.4	-8.2
STD ERROR	3.0	3.5	2.9	2.8	1.0	1.0	5.8	5.1	8.6	4.3	4.1	2.9	3.6	0.7	2.8	6.2	5.2	2.8	1.5	1.1	3.4
REFR: R210 NATL % 63.2	The earliest men on earth were probably small, hairy, and stooped.																				
UNADJ PPPCT	7.5	-7.7	-1.1	0.2	4.1	-3.7	-13.6	-7.4	8.7	-7.4	5.6	4.5	-3.0	2.4	-12.0	-3.1	-15.1	-4.5	-1.7	5.2	-5.6
STD ERROR	2.3	1.8	2.2	2.9	1.3	1.3	3.7	2.5	3.7	5.3	3.3	2.5	2.7	0.9	4.1	4.0	4.5	1.2	1.7	1.3	3.7
BAL PPPCT	5.6	-3.9	-1.5	-0.6	4.0	-1.7	-9.7	-3.3	2.1	-6.6	3.6	3.8	-2.0	1.2	-7.0	0.9	-10.5	-1.8	-2.2	4.0	-1.6
STD ERROR	2.2	2.6	2.1	3.2	1.3	1.2	3.1	3.2	3.9	5.1	3.2	2.5	2.4	0.9	4.2	3.6	4.9	3.1	1.6	1.3	3.4
REFR: R211 NATL % 61.3	In hot water the molecules are moving faster than in cold water.																				
UNADJ PPPCT	2.4	-10.6	5.8	-0.7	0.6	-0.4	-15.1	-19.8	11.4	-2.7	-0.4	1.0	4.4	4.5	-28.4	-10.7	-16.4	-9.2	-0.9	5.9	-9.3
STD ERROR	2.2	2.8	2.7	2.8	1.4	1.3	6.9	5.6	5.4	4.1	2.4	2.5	1.4	0.7	3.1	4.3	5.3	5.3	1.5	1.5	4.1
BAL PPPCT	1.5	-5.5	3.8	-1.7	0.3	-0.3	-4.6	-7.2	8.2	-1.0	-2.6	-0.6	2.8	3.4	-18.9	-7.4	-10.6	-6.2	-1.7	4.8	-6.1
STD ERROR	2.0	2.4	2.3	2.8	1.4	1.3	7.4	4.7	4.4	3.7	2.4	2.4	3.0	0.7	3.3	4.2	5.5	4.3	1.6	1.5	4.2
REFR: R212 NATL % 59.4	The movement and characteristics of air masses are important in predicting weather.																				
UNADJ PPPCT	3.9	-10.7	6.3	-3.3	0.8	-0.5	-6.2	-18.1	6.5	-6.6	4.2	2.5	-0.2	5.4	-25.2	-18.1	-19.2	-13.0	0.7	4.2	-11.9
STD ERROR	1.9	3.0	1.9	2.2	1.1	1.0	5.7	4.1	3.2	4.5	2.1	2.6	2.6	0.9	2.6	4.4	4.4	4.5	1.5	1.6	3.4
BAL PPPCT	1.6	-4.9	1.8	-2.5	0.3	-0.3	1.7	-1.5	1.4	-2.8	0.1	0.7	-0.5	4.4	-21.1	-13.1	-11.8	-9.6	-0.8	5.6	-6.7
STD ERROR	1.7	2.5	1.8	2.0	1.1	1.0	4.8	3.3	3.1	3.8	1.9	2.1	2.1	0.9	2.6	4.7	4.7	4.4	1.6	1.5	3.6
REFR: R213 NATL % 57.4	A human action such as draining a swamp can upset the ecology of a small area.																				
UNADJ PPPCT	5.1	-18.0	2.3	0.0	0.5	-0.4	-14.0	-30.2	12.3	-5.5	6.0	2.7	1.1	7.2	-35.4	-21.9	-15.5	-15.3	-7.4	12.1	-11.4
STD ERROR	3.2	3.1	2.6	2.9	1.4	1.5	5.8	4.2	3.5	4.8	3.3	3.1	3.4	1.0	2.3	4.2	4.0	3.4	2.0	1.6	5.8
BAL PPPCT	2.9	-4.4	1.6	-1.3	-0.1	0.1	-2.9	-9.3	5.5	-1.0	1.7	-0.6	0.2	5.6	-29.0	-16.2	-8.1	-11.9	-6.6	4.6	-7.4
STD ERROR	2.4	2.4	2.0	3.1	1.2	1.4	4.1	4.3	3.7	4.3	2.9	2.5	3.2	0.9	3.2	4.5	4.0	3.7	1.9	1.7	4.5

ITEM: 0214 NATL % 54.0 Determine the appropriate position for a weight on a beam in order to balance another weight.

DRADJ PPPCT	5.6	-9.5	0.0	-3.3	3.3	-2.7	-5.2	-25.1	12.6	-5.2	2.8	2.1	1.8	5.5	-27.6	-15.0	-20.6	-6.8	-1.8	7.7	-12.7
STD ERROR	1.9	7.8	3.8	2.5	1.8	1.2	7.1	8.1	3.9	8.2	2.5	2.3	3.0	1.0	2.3	5.6	5.1	3.0	1.5	1.2	8.1
BAL PPPCT	6.8	-8.3	1.7	-3.0	3.7	-3.8	-8.8	-8.6	7.6	0.1	-1.1	0.2	2.1	8.2	-21.7	-10.0	-16.9	-3.6	-1.8	8.8	-7.2
STD ERROR	1.9	2.8	1.9	2.2	1.3	1.2	6.5	8.1	3.5	2.8	2.8	2.0	2.5	0.8	2.6	5.0	4.9	2.9	1.5	1.1	8.1

ITEM: 0215 NATL % 52.7 Flower seeds develop from the ovules rather than leaves, petals, roots, or stems.

DRADJ PPPCT	-0.4	-6.3	5.6	-1.6	-8.5	8.5	-9.9	-22.8	12.8	-19.8	8.8	3.7	8.1	7.6	-32.1	-23.9	-21.0	-16.3	-9.7	8.4	-0.6
STD ERROR	2.7	3.6	2.7	3.0	1.3	1.2	8.6	7.8	7.0	8.0	3.0	2.9	3.5	1.1	2.8	8.6	8.9	3.5	1.9	1.6	8.6
BAL PPPCT	-1.0	0.8	2.2	-0.8	-5.3	8.9	-2.1	-7.3	6.8	-18.9	1.0	1.3	2.9	6.5	-29.1	-18.6	-12.6	-13.8	-2.3	6.1	-0.3
STD ERROR	2.8	2.7	2.8	2.7	1.3	1.2	8.7	8.8	5.8	8.1	2.7	2.8	3.0	1.0	3.0	8.2	8.1	3.3	1.8	1.8	8.0

ITEM: 0216 NATL % 51.0 The apparent bending of a spoon in a glass of water is explained by refraction of light.

DRADJ PPPCT	5.8	-2.6	0.8	-3.6	2.1	-1.9	-3.8	-17.8	10.7	-6.0	8.3	-0.1	-2.5	3.6	-17.0	-13.7	-11.8	-6.1	-3.9	6.1	-5.3
STD ERROR	3.2	3.8	3.0	2.5	1.2	1.2	5.1	8.0	3.7	8.7	3.8	3.7	3.1	0.7	2.9	3.1	8.8	3.8	1.8	1.0	3.7
BAL PPPCT	8.8	0.0	0.1	-8.2	1.8	-1.7	-1.9	-9.7	8.5	-8.1	5.3	-1.1	-1.9	2.8	-12.2	-8.2	-7.9	-3.5	-8.3	8.6	-1.5
STD ERROR	3.2	3.7	3.0	2.8	1.2	1.2	8.9	8.0	3.6	8.1	3.5	3.6	3.2	0.7	3.8	3.0	8.8	3.9	1.8	1.8	3.7

ITEM: 0217 NATL % 68.3 Most of the chemical energy expended in an automobile engine is not used to move the car but is changed to heat.

DRADJ PPPCT	-3.0	6.7	-0.8	-2.8	1.8	-1.2	-1.6	-6.8	2.1	-9.3	-1.9	8.8	2.2	0.5	-3.2	0.8	2.5	-2.8	-1.5	1.8	-1.2
STD ERROR	2.9	3.3	2.8	2.5	1.2	1.1	8.5	3.7	8.2	3.5	2.7	3.1	3.5	0.7	3.9	5.8	5.1	3.5	1.8	1.5	8.0
BAL PPPCT	-8.0	7.8	-0.1	-2.7	1.6	-1.8	-5.0	-6.5	3.2	-8.6	-0.6	8.8	1.0	-0.1	-2.1	5.6	0.9	-3.7	-1.1	1.1	1.6
STD ERROR	3.0	3.6	2.7	2.7	1.2	1.0	5.3	8.1	8.8	3.6	3.0	2.9	3.6	0.8	8.0	8.1	5.2	3.5	1.8	1.5	3.9

ITEM: 0218 NATL % 85.7 Mercury can be used in a glass thermometer because when heated it expands more than the glass.

DRADJ PPPCT	1.7	-6.8	3.5	-0.8	10.0	-8.5	-1.7	-18.9	-0.8	-3.1	8.8	1.6	2.0	2.8	-15.2	-0.8	-3.2	-3.7	-0.8	3.7	-7.5
STD ERROR	2.8	3.5	2.6	2.5	1.8	1.2	5.6	3.8	3.6	2.7	3.8	3.2	3.9	0.7	2.6	5.1	5.0	3.7	1.6	1.3	3.1
BAL PPPCT	0.1	-3.3	3.8	-3.5	9.6	-8.7	-1.7	-6.7	-3.7	-0.9	3.2	0.9	1.6	1.8	-12.0	1.5	-8.3	-2.2	-1.0	2.6	-8.9
STD ERROR	2.6	3.3	2.8	2.8	1.8	1.2	5.8	8.3	3.6	2.9	3.2	3.0	3.3	0.8	3.8	8.8	5.3	3.7	1.5	1.2	3.8

ITEM: 0219 NATL % 40.8 Pasteurization of milk kills bacteria harmful to man.

DRADJ PPPCT	2.1	-6.0	3.3	-1.2	-2.7	2.7	-13.9	-18.5	11.6	-1.8	3.9	8.1	0.9	8.0	-19.8	-11.8	-10.9	-11.8	-5.5	7.5	-2.8
STD ERROR	2.6	3.1	2.9	2.5	1.3	1.2	3.5	8.9	5.3	5.9	2.8	2.9	3.3	0.7	3.2	5.0	5.9	3.6	1.8	1.7	5.0
BAL PPPCT	5.3	-0.9	2.1	-2.3	-2.8	2.6	-7.2	-7.3	8.8	-2.7	2.1	-1.1	0.2	3.2	-16.3	-10.3	-8.8	-8.8	-6.1	6.5	-0.5
STD ERROR	2.3	3.1	2.6	2.8	1.3	1.2	8.8	5.5	5.3	8.7	2.8	2.5	3.1	0.7	3.1	8.6	6.5	3.4	1.7	1.7	8.8

ITEM: 0220 NATL % 39.0 A block of wood is more buoyant in salt water than in fresh water.

DRADJ PPPCT	3.3	-8.3	-2.9	3.8	7.1	-6.7	-12.5	-11.5	6.1	-9.8	8.8	3.7	1.0	2.5	-16.8	-2.8	-12.9	-15.5	-2.1	6.3	-2.9
STD ERROR	2.8	2.8	2.1	2.3	1.8	1.2	8.2	2.6	2.5	3.7	2.2	2.7	2.1	0.5	2.2	3.6	8.5	3.6	1.9	1.5	3.8
BAL PPPCT	2.8	-1.7	-3.1	2.0	6.6	-8.8	-10.6	-3.8	2.7	-7.7	2.1	2.3	2.8	1.7	-12.3	0.6	-11.4	-13.8	-1.7	5.1	-1.2
STD ERROR	2.3	2.0	1.8	2.2	1.3	1.7	3.9	2.5	2.6	3.6	2.3	2.6	1.8	0.5	2.2	3.3	8.6	3.5	1.9	1.8	3.5

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME APP SUB	INNER PRINGE	URBAN PRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
ITEM: 0221 VAYL % 18.2 Most caves are formed by the action of underground water on limestone.																					
UNADJ EFFECT	-0.2	0.0	-1.0	1.7	3.2	-2.9	-8.1	-11.2	8.1	-13.9	3.0	1.2	6.9	2.5	-18.0	-8.1	-8.0	-7.7	-1.1	6.9	-10.4
STD ERROR	2.7	2.9	2.8	2.2	1.5	1.2	3.4	5.0	5.3	3.1	2.8	3.3	2.9	0.6	3.1	5.2	5.5	3.1	1.6	1.5	2.8
BAL EFFECT	-2.7	4.5	-2.5	2.5	3.0	-3.1	-6.9	-1.1	-0.5	-11.0	2.8	0.5	5.7	2.3	-13.3	-2.1	-8.3	-7.5	-3.1	6.1	-6.9
STD ERROR	2.5	2.9	3.4	2.3	1.3	1.1	3.4	5.0	5.1	2.9	2.6	3.0	2.9	0.6	2.5	6.8	5.0	2.9	1.6	1.4	3.3
ITEM: 0222 VAYL % 18.4 In terms of natural selection, choose the best explanation of why giraffes have long necks.																					
UNADJ EFFECT	-7.9	0.6	7.8	0.1	-1.2	3.1	-2.8	9.6	-2.6	-3.9	6.8	0.5	-8.6	-8.1	0.1	2.5	2.0	2.8	-3.6	2.3	-3.6
STD ERROR	2.2	2.5	2.5	2.1	1.0	1.1	4.0	3.2	3.8	3.8	1.2	2.6	2.2	0.5	2.5	3.5	4.7	4.3	2.0	1.5	4.1
BAL EFFECT	-8.5	1.5	6.9	0.1	-0.9	1.0	-4.4	1.5	-1.4	-1.5	5.6	0.6	-1.8	-8.1	-0.5	4.5	1.0	3.2	-3.4	2.2	-3.3
STD ERROR	2.1	2.4	2.5	2.1	1.0	1.2	4.1	3.7	2.9	3.0	3.2	2.5	2.3	0.5	2.4	3.8	4.9	4.4	3.9	1.4	4.2
ITEM: 0223 VAYL % 16.1 A hairy covering of feathers distinguishes birds from all other animals.																					
UNADJ EFFECT	-0.5	-1.6	0.5	1.4	2.8	-3.2	-1.0	-15.0	13.1	-12.1	3.2	0.1	-8.1	3.0	-15.8	-6.7	-2.4	-4.5	-2.8	5.0	-0.8
STD ERROR	2.8	2.7	2.2	2.1	1.1	1.0	4.0	3.4	3.4	3.1	3.0	2.6	2.2	0.6	2.1	4.2	5.0	2.1	1.7	1.1	3.1
BAL EFFECT	-2.1	1.9	-1.2	2.4	2.7	-2.5	-0.6	-5.4	9.8	-11.1	2.6	-0.4	-1.2	3.5	-13.6	-6.5	0.7	-3.1	-2.4	3.7	-4.2
STD ERROR	2.4	2.4	1.8	1.9	1.1	1.0	4.0	3.9	3.4	3.4	2.7	2.4	2.1	0.6	2.4	4.2	5.4	2.9	1.6	1.1	3.0
ITEM: 0224 VAYL % 11.9 Our knowledge of atoms is based on observation of how matter behaves.																					
UNADJ EFFECT	-2.5	-1.1	3.1	1.5	5.5	-4.9	-12.0	-10.8	8.2	-1.5	4.7	0.9	-3.6	1.8	-0.4	-7.4	-23.4	-6.0	-2.0	4.7	-4.5
STD ERROR	2.4	2.5	2.8	2.2	1.4	1.3	5.2	4.8	5.8	3.7	2.5	2.9	3.2	0.5	3.2	6.4	1.6	1.8	1.7	1.2	2.8
BAL EFFECT	-5.2	1.4	2.3	1.2	5.4	-4.9	-8.1	-6.0	7.3	-1.1	5.8	0.0	-4.9	1.2	-5.5	-5.2	-18.1	-1.9	-1.4	4.4	-5.8
STD ERROR	2.6	2.5	3.5	1.7	1.4	1.3	5.5	4.5	5.6	3.3	2.4	2.7	3.1	0.5	3.2	6.2	3.2	5.4	1.7	1.3	3.8
ITEM: 0225 VAYL % 11.5 A good thing to do when someone faints is to have him lie down and keep warm.																					
UNADJ EFFECT	3.2	-7.7	-5.5	8.0	2.7	-2.3	-3.3	-9.8	2.1	-8.8	6.4	1.6	-0.3	3.3	-15.4	-5.4	-8.4	-3.0	-2.3	4.9	-5.5
STD ERROR	2.5	2.6	2.1	2.0	1.2	1.0	5.0	4.7	4.5	3.6	2.5	3.2	2.6	0.8	3.2	3.1	5.2	2.7	1.8	1.8	2.7
BAL EFFECT	2.1	-8.3	-2.5	3.9	2.2	-2.1	2.5	0.3	-3.8	-8.4	2.2	-0.8	0.0	3.9	-13.1	-6.2	-5.5	-0.9	-1.4	3.5	-4.8
STD ERROR	2.5	2.7	3.0	1.9	1.1	1.1	3.9	3.7	4.2	3.8	2.2	3.1	2.6	0.7	2.5	3.1	4.9	3.7	1.7	1.3	2.6
ITEM: 0226 VAYL % 27.4 A different substance is formed when a candle burns.																					
UNADJ EFFECT	-0.6	-2.1	4.7	-2.2	0.1	-0.1	4.5	-7.7	3.7	-0.5	-1.9	3.0	-3.1	2.9	-9.7	-3.1	1.7	5.2	-3.4	2.6	-0.2
STD ERROR	2.2	2.6	2.7	2.3	1.0	1.0	4.2	2.2	3.8	3.7	2.7	3.2	3.4	0.6	2.2	3.2	4.7	2.9	1.1	1.1	1.4
BAL EFFECT	-0.6	-0.0	1.5	-1.0	3.9	-3.8	4.8	-1.4	2.2	-5.6	-2.1	2.1	-2.4	1.6	-4.6	-0.2	2.4	1.1	-3.1	2.8	0.3
STD ERROR	2.1	2.4	2.9	2.4	1.0	1.0	4.2	3.1	4.1	3.4	2.7	3.1	2.1	0.7	2.7	3.9	5.2	2.9	1.2	1.1	3.2
ITEM: 0227 VAYL % 25.9 In humans the cerebrum is the center of memory and intelligence.																					
UNADJ EFFECT	3.1	4.4	-1.6	-3.9	-1.6	3.1	-2.4	-9.0	6.0	-6.3	0.2	1.6	3.6	0.4	-5.3	0.8	-12.3	-3.4	-0.3	3.1	-5.4
STD ERROR	2.0	2.4	2.7	2.5	1.0	0.9	4.3	4.7	5.9	3.8	2.7	3.3	2.4	0.6	3.0	6.8	3.4	2.4	1.5	1.1	3.0
BAL EFFECT	0.4	4.7	-2.1	-3.8	-1.2	3.1	-2.2	-6.6	6.9	-6.1	-0.1	3.3	3.1	0.1	-4.2	2.9	-14.1	-3.7	0.1	3.7	-3.8
STD ERROR	2.6	2.6	2.9	2.3	1.0	0.9	4.5	5.0	5.9	3.4	2.7	3.4	2.4	0.7	3.4	6.1	3.4	2.8	1.6	1.3	3.2

ITEM: 8228 NATL % 25.9 The presence of an ocean fish fossil on a mountain outcrop is best explained by the hypothesis that the mountain was raised up after the fish had died.

UNADJ EFFECT	-0.2	-6.1	5.8	0.0	1.8	-1.1	-3.2	-11.9	5.1	-2.3	-0.8	8.2	3.5	3.8	-15.0	-7.6	-11.7	-8.3	-2.0	5.6	-2.2
STD ERROR	2.1	2.2	2.1	1.8	1.2	1.1	2.8	2.6	3.0	8.8	2.6	1.8	2.8	0.7	1.8	8.8	8.5	2.3	1.5	3.3	3.9
BAL EFFECT	-1.0	-2.5	3.8	-0.6	2.8	-2.7	-0.6	-3.3	3.0	-2.1	-3.9	2.6	3.3	2.8	-11.1	-8.1	-8.9	-6.8	-3.8	8.8	-1.0
STD ERROR	2.1	2.1	2.0	1.7	1.1	1.1	2.7	3.2	3.5	3.9	2.5	1.9	2.6	0.6	1.9	8.6	8.8	2.2	1.6	3.3	3.2

OBJECTIVE: Possess the abilities and skills needed to engage in the processes of science.

ITEM: 8229 NATL % 92.2 Given a table listing the weights of several elements in the human body, choose the most common element (oxygen).

UNADJ EFFECT	2.0	-3.3	3.9	-1.1	-1.3	1.8	-3.1	-6.9	8.5	2.1	1.2	-0.5	1.8	1.8	-6.1	-8.3	-7.6	-1.0	-0.7	2.8	-3.9
STD ERROR	1.0	1.0	0.9	1.0	0.6	0.6	2.2	2.3	1.3	1.8	1.1	1.0	1.2	0.6	1.3	3.3	3.8	1.9	0.8	0.7	2.1
BAL EFFECT	1.9	-3.1	3.3	-1.8	-1.7	1.6	-2.0	-2.0	3.5	2.8	0.0	-1.6	1.6	1.3	-6.8	-6.6	-6.8	0.3	-0.7	1.9	-3.3
STD ERROR	1.0	1.0	0.9	0.9	0.6	0.5	2.0	2.3	1.3	1.6	1.0	1.0	1.3	0.4	1.6	3.3	3.6	2.0	0.8	0.7	2.1

ITEM: 8230 NATL % 82.9 Wind or sun are the most likely causes that paint on one side of a house does not last as long as paint on the other sides.

UNADJ EFFECT	-0.1	-10.1	8.7	8.1	0.8	-0.1	-3.0	-20.2	11.5	-6.1	1.1	1.9	1.5	5.8	-28.1	-22.7	-18.0	-7.2	-1.1	6.3	-12.2
STD ERROR	1.5	2.8	1.8	1.2	1.1	1.0	8.1	6.8	1.9	8.8	1.8	1.7	1.8	0.8	1.0	5.5	8.8	2.8	1.5	0.9	3.7
BAL EFFECT	-0.6	-8.3	2.9	8.8	0.1	-0.1	-1.2	-9.8	8.0	-3.5	-2.8	-0.2	2.5	8.2	-17.5	-19.9	-10.6	-2.9	-1.7	8.0	-6.8
STD ERROR	1.2	1.8	1.8	1.0	1.0	0.9	2.9	3.9	1.6	2.3	1.5	1.8	1.5	0.6	2.8	8.3	8.7	2.7	1.3	0.8	3.1

ITEM: 8231 NATL % 80.9 Given a table listing the weights of several elements in the human body, choose the least common element.

UNADJ EFFECT	6.7	-11.6	3.9	-0.8	0.2	0.5	-9.0	-13.0	10.1	-0.8	2.7	7.2	-3.8	5.5	-22.8	-16.9	-25.8	-7.6	-1.7	7.5	-6.8
STD ERROR	1.9	3.8	2.0	1.9	1.5	1.1	8.6	8.0	2.9	8.3	2.2	1.9	2.5	1.3	8.3	5.2	6.1	3.0	1.3	1.3	3.9
BAL EFFECT	8.0	-5.5	1.7	-1.1	-0.9	0.9	-8.1	2.3	5.0	0.1	-1.0	3.6	-3.6	8.5	-18.2	-13.8	-18.6	-3.7	-1.8	5.8	-6.0
STD ERROR	1.6	2.2	1.7	1.5	1.0	1.0	2.7	8.8	2.6	3.7	1.7	1.5	2.0	1.2	8.0	5.1	5.6	2.5	1.3	1.1	3.5

ITEM: 8232 NATL % 75.1 From pictures showing three solids of the same size floating, determine which is the heaviest.

UNADJ EFFECT	2.2	-2.6	0.8	-1.1	2.2	-1.5	8.1	-3.0	1.8	-5.1	0.8	-0.1	0.5	2.2	-10.9	-2.8	-3.3	3.0	-3.8	2.5	-1.3
STD ERROR	1.8	2.8	1.7	2.3	1.1	1.0	2.2	3.3	3.7	3.7	2.5	2.2	2.8	0.7	3.0	3.5	8.2	3.0	1.6	1.2	3.1
BAL EFFECT	2.1	-3.5	0.8	-1.8	1.5	-1.8	6.8	1.9	-0.2	-3.8	-1.2	-0.8	0.5	2.2	-11.2	-2.9	-1.2	3.8	-8.0	2.1	0.8
STD ERROR	1.8	2.6	1.8	2.6	1.1	1.0	2.8	3.6	3.9	3.6	2.6	2.1	2.1	0.8	3.2	3.8	8.2	3.0	1.6	1.2	3.0

ITEM: 8233 NATL % 70.9 Interpret a graph showing the effect of different diets on the weight of guinea pigs.

UNADJ EFFECT	6.3	-13.8	2.1	2.7	-2.8	2.1	-18.0	-25.7	18.1	-7.2	5.6	2.7	-0.8	6.2	-38.1	-13.8	-20.8	-19.5	-3.8	10.8	-11.1
STD ERROR	2.2	3.0	2.8	2.2	1.2	1.1	6.2	6.2	3.1	6.8	2.6	2.6	2.9	0.9	8.2	8.3	7.1	3.8	1.5	1.2	3.3
BAL EFFECT	1.8	-6.8	0.8	1.8	-2.2	2.0	-3.9	-7.1	7.8	-8.8	2.2	-0.1	-1.0	5.0	-29.0	-10.6	-11.8	-15.3	-8.3	8.6	-7.8
STD ERROR	1.7	2.5	2.1	1.8	1.1	1.0	8.2	5.8	3.0	8.2	2.8	1.9	2.8	0.8	3.9	3.9	6.3	3.5	1.5	1.2	3.1

ITEM: 8234 NATL % 62.5 Operate a beam balance.

UNADJ EFFECT	8.8	-18.1	2.9	-1.3	6.6	-5.1	-11.3	-18.8	-6.2	18.8	0.3	7.0	-0.6	8.0	-23.3	-5.0	-12.5	-2.3	-8.0	6.1	-16.5
STD ERROR	3.5	8.1	8.1	8.5	2.3	2.0	8.7	7.3	7.2	6.9	3.7	3.8	5.1	1.2	5.6	9.3	12.2	6.1	2.9	2.8	6.9
BAL EFFECT	5.5	-9.7	3.0	-1.7	5.0	-8.8	-9.5	-3.1	-8.9	15.7	-8.0	8.5	1.1	3.3	-19.3	-8.2	-8.5	-0.8	-3.6	8.8	-9.9
STD ERROR	3.8	8.8	3.9	8.8	2.3	1.9	8.6	8.2	6.9	8.0	3.9	3.7	8.9	1.3	5.8	9.3	18.0	6.1	2.8	2.3	7.9

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF.SUB	INNER SUB	URBAN FRINGE	FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXPR: R235 NATL % 62.1	Given data from four weight experiments, determine which one provides strongest evidence that one object is heavier than another.																					
UNADJ EFFECT	3.2	-8.0	5.7	-3.9	-0.7	0.8	-7.0	-15.8	9.0	-11.4	3.0	4.9	0.4	4.8	-18.7	-25.3	-18.2	-4.0	-2.8	9.0	-21.7
STD ERROR	2.2	2.6	2.0	2.5	1.2	1.1	5.1	4.3	3.7	6.4	2.8	2.5	2.9	0.8	2.7	4.5	6.4	3.2	1.7	1.1	4.1
BAL EFFECT	0.6	-4.9	3.4	-0.7	-0.0	0.0	-8.2	-0.9	3.3	-4.2	0.4	3.0	0.6	3.7	-13.3	-22.0	-9.8	-1.7	-2.8	6.8	-17.9
STD ERROR	1.7	2.0	1.7	2.0	1.1	1.0	4.3	3.5	3.3	4.4	2.2	2.1	2.3	0.8	3.0	4.0	5.2	3.1	1.6	1.2	4.3
EXPR: R236 NATL % 60.7	Use a graph and tabular data to determine the food needs of a dog.																				
UNADJ EFFECT	6.7	-18.4	8.5	-3.1	1.5	-1.4	-13.1	25.0	13.2	-1.6	8.7	5.2	-0.6	6.6	-30.0	-12.6	-12.2	-11.2	-3.6	9.5	-7.1
STD ERROR	2.3	3.7	2.3	2.5	1.3	1.2	5.7	4.4	2.7	4.5	2.2	2.3	3.0	1.3	3.2	4.9	5.6	4.0	1.8	1.8	5.9
BAL EFFECT	3.7	-6.3	6.7	-5.3	0.7	-0.6	-9.0	-9.5	7.9	-0.9	5.2	1.5	-0.3	4.3	-21.0	-4.7	-8.2	-8.3	-3.5	7.2	-6.6
STD ERROR	1.7	2.6	2.1	2.8	1.1	1.1	4.7	4.8	3.3	4.2	1.9	2.0	2.3	1.1	3.0	4.7	4.7	1.5	1.8	1.6	4.8
EXPR: R237 NATL % 35.5	Time 10 swings of a pendulum.																				
UNADJ EFFECT	0.4	1.5	-1.4	-0.1	3.9	-4.0	-1.9	-4.0	-2.0	-3.7	-5.1	6.6	2.5	1.1	-2.8	-14.8	-14.4	-4.8	1.7	1.6	-3.8
STD ERROR	4.1	4.1	3.9	4.1	2.1	2.3	7.7	5.8	5.6	6.2	4.6	4.6	4.7	0.9	5.2	6.2	6.8	5.6	2.6	2.3	7.0
BAL EFFECT	0.2	1.1	-1.9	1.1	3.7	-4.1	-0.9	1.1	-3.8	-3.2	-6.3	5.9	3.2	0.9	-1.6	-14.8	-15.1	-6.3	1.3	2.3	-3.8
STD ERROR	4.3	4.6	3.9	4.1	1.9	2.2	7.6	7.2	6.2	6.2	4.9	4.5	4.8	1.1	6.4	7.0	6.8	5.8	2.8	2.3	6.8
EXPR: R238 NATL % 35.6	Select the correct apparatus necessary to determine the boiling point of water.																				
UNADJ EFFECT	5.5	-6.4	3.8	-4.9	4.9	-4.0	-17.9	-21.1	8.8	-7.4	7.7	5.3	-1.5	3.3	-18.1	-18.1	-16.5	-7.5	-3.2	6.6	-8.7
STD ERROR	2.7	2.8	2.3	2.3	1.3	1.2	3.8	3.2	5.6	3.8	2.6	3.0	2.4	0.7	3.6	3.7	4.4	4.0	1.6	1.3	3.1
BAL EFFECT	3.7	-1.3	2.7	-6.3	4.6	-4.0	-14.4	-16.6	6.7	-5.4	6.6	3.4	-0.7	1.0	-4.6	-2.8	-12.7	-4.2	-3.3	4.8	-4.0
STD ERROR	2.5	2.8	2.2	2.4	1.3	1.2	3.8	4.4	5.2	3.8	2.7	2.8	2.4	0.8	3.9	3.9	4.5	3.7	1.5	1.3	3.1
EXPR: R239 NATL % 26.6	Select the best line graph showing average normal height increases in children as a function of their age.																				
UNADJ EFFECT	3.7	-7.6	2.0	0.1	2.3	-2.1	-7.2	-13.0	7.1	-9.4	4.5	3.7	-2.8	2.9	-18.6	-8.8	-15.6	0.1	-4.2	5.7	-12.9
STD ERROR	2.8	2.1	2.2	2.1	1.3	1.2	7.4	3.0	2.9	2.1	3.5	2.1	2.2	0.6	2.3	4.0	3.9	4.1	1.8	1.3	4.3
BAL EFFECT	2.3	-5.1	2.5	-1.1	2.2	-2.1	-5.5	-5.3	4.7	-6.4	2.7	2.2	-2.0	1.8	-8.8	-5.2	-11.8	2.7	-3.6	4.2	-10.5
STD ERROR	2.3	1.6	1.7	1.9	1.3	1.2	6.8	3.5	2.9	2.1	3.2	2.0	2.0	0.5	1.9	4.0	3.6	4.1	1.8	1.4	4.8
EXPR: R240 NATL % 4.2	Determine the density of a wood block using a beam balance.																				
UNADJ EFFECT	1.9	-1.9	0.4	-0.9	1.1	-0.9	-2.6	-4.2	4.5	5.6	-2.9	2.2	-2.2	0.9	-4.2	-4.3	7.4	-2.7	-1.4	1.7	-4.2
STD ERROR	1.8	1.7	1.4	1.6	1.0	0.9	1.4	0.9	2.8	5.3	1.2	2.1	1.7	0.2	0.9	0.9	10.9	1.6	1.2	1.0	0.9
BAL EFFECT	1.3	-1.0	0.3	-0.9	0.9	-0.8	-2.6	-0.4	4.3	6.6	-3.7	1.7	-2.4	0.9	-1.7	-3.2	10.4	-2.1	-0.9	0.9	-4.0
STD ERROR	1.7	1.3	1.4	1.8	0.9	0.8	1.6	1.0	2.8	5.5	1.4	2.0	1.1	0.3	1.3	2.3	11.2	1.8	1.3	0.9	1.6
OBJECTIVE:	Understand the investigative nature of science.																				
EXPR: R241 NATL % 79.0	Select the skill which is most useful to scientific research.																				
UNADJ EFFECT	5.9	-10.8	2.0	-0.2	-0.5	0.4	-2.6	-15.1	9.4	-7.7	3.1	2.7	-1.7	4.6	-22.9	-14.0	-16.6	-9.9	0.0	5.9	-10.4
STD ERROR	1.6	3.0	2.3	2.4	1.0	0.9	4.5	3.8	2.3	6.4	2.6	2.3	2.3	0.9	2.4	8.5	6.6	3.0	1.4	0.9	3.7
BAL EFFECT	4.1	-6.2	-0.7	1.3	0.2	-0.2	-0.4	-0.1	4.7	-4.4	-0.9	1.0	-0.9	3.9	-19.2	-12.4	-10.9	-7.4	0.3	3.9	-6.3
STD ERROR	1.6	2.3	2.1	1.4	0.9	0.9	3.9	3.6	2.5	4.7	2.6	2.1	2.0	0.8	2.9	7.2	5.1	2.7	1.3	0.9	3.6

EXER: R242 NATL % 72.5 Recognize that the statement "My dog is better than your dog" is not a scientifically testable statement:

UNADJ EFFECT	1.9	-8.5	0.2	2.6	0.8	-0.6	-7.8	-24.3	8.0	-4.9	7.9	0.4	-0.7	4.9	-22.3	-17.6	-16.6	-3.3	-2.7	5.6	-13.2
STD ERROR	1.9	2.6	2.3	2.3	0.8	0.8	7.1	4.0	3.0	6.0	2.6	1.8	2.3	0.8	2.7	3.3	6.2	3.4	1.7	1.2	3.4
BAL EFFECT	2.4	-6.0	0.1	2.3	0.7	-0.6	-0.7	-12.4	4.0	-0.7	5.5	-2.1	-0.6	3.7	-15.2	-16.7	-10.4	-0.4	-2.0	3.5	-9.1
STD ERROR	1.8	2.4	2.3	2.0	0.9	0.8	5.8	4.4	2.9	5.4	2.6	1.6	2.4	0.7	3.0	3.7	5.8	3.1	1.8	1.3	4.0

EXER: R243 NATL % 68.8 Recognize that repeated measures of the same object will usually yield similar results but not exactly the same.

UNADJ EFFECT	-3.8	0.5	4.8	-1.6	-1.4	1.9	0.7	-18.0	2.0	2.2	-1.4	1.3	2.2	1.1	-4.8	-4.4	-1.9	1.4	-1.4	2.5	-8.1
STD ERROR	2.3	2.1	1.8	2.3	1.0	1.2	3.8	5.5	3.1	3.8	2.6	2.6	2.2	0.5	2.4	5.0	5.6	3.4	1.9	1.1	3.2
BAL EFFECT	-3.1	0.5	4.9	-2.6	-1.5	1.7	0.8	-12.2	3.0	3.3	-1.4	0.6	1.3	0.3	-1.7	0.2	-1.6	1.9	-1.3	1.9	-6.3
STD ERROR	2.1	2.1	1.8	2.5	1.0	1.2	3.6	5.9	2.9	3.6	2.4	2.6	2.1	0.6	3.0	4.9	5.6	3.4	1.8	1.1	3.3

EXER: R244 NATL % 56.4 Recognize a simple definition of a scientific theory.

UNADJ EFFECT	6.3	-9.3	3.8	-2.3	2.1	-1.8	-8.0	-21.3	11.0	-1.6	4.6	8.0	-4.1	5.2	-23.8	-9.0	-12.5	-6.9	-4.8	10.3	-13.4
STD ERROR	2.6	4.1	2.4	2.3	1.2	0.9	4.4	3.6	4.1	6.0	2.7	2.4	3.7	1.3	3.5	4.4	5.7	4.0	1.6	1.7	5.2
BAL EFFECT	4.3	-2.7	2.4	-4.6	1.4	-1.3	-4.2	-8.5	6.1	-0.1	2.1	4.8	-4.1	3.3	-16.6	-1.8	-7.3	-3.4	-4.7	8.6	-12.8
STD ERROR	2.0	2.7	2.5	2.3	1.0	0.9	4.0	4.4	3.1	5.6	2.4	2.0	3.2	1.2	4.0	3.9	6.1	3.3	1.5	1.5	4.7

OBJECTIVE: Have attitudes about and appreciation of scientists, science, and the consequences of science that stem from adequate understandings.

EXER: R245 NATL % 93.4 Believe that women can be successful scientists.

UNADJ EFFECT	-0.8	-0.4	-1.5	2.9	-1.0	1.0	-9.0	-6.0	4.1	-2.1	0.2	2.4	0.0	1.8	-5.7	-10.8	-8.5	-1.4	-0.4	2.3	-6.3
STD ERROR	1.0	1.1	1.6	1.0	0.6	0.6	7.6	2.0	1.4	1.8	1.2	1.0	1.2	0.7	1.6	6.5	4.9	1.6	1.0	0.5	2.2
BAL EFFECT	-1.7	0.4	-1.2	2.8	-0.9	0.9	-5.4	-1.1	2.2	-0.6	-0.1	1.6	-0.7	1.4	-4.1	-9.2	-6.2	-1.0	-0.0	1.5	-5.1
STD ERROR	0.8	0.9	1.0	1.1	0.7	0.6	5.0	2.3	1.4	1.6	1.0	0.8	1.0	0.6	1.8	5.1	4.0	1.5	0.9	0.5	2.2

EXER: R246 NATL % 90.6 Do not believe that scientists always work in laboratories.

UNADJ EFFECT	2.5	-5.8	1.7	0.1	1.2	-1.2	-10.7	-18.4	4.4	-4.5	5.3	2.0	2.3	3.9	-18.8	-13.3	-12.1	-7.0	-0.1	3.7	-4.6
STD ERROR	1.3	2.0	1.1	1.4	0.6	0.7	3.5	2.8	1.5	3.2	1.2	1.2	1.2	0.6	2.6	3.7	4.2	2.6	1.1	0.8	2.8
BAL EFFECT	0.8	-3.0	1.3	0.1	0.8	-0.9	-5.8	-9.0	1.7	-3.1	3.2	0.8	1.7	2.8	-13.3	-8.9	-7.8	-5.2	0.3	2.0	-1.7
STD ERROR	0.9	1.4	0.9	1.4	0.6	0.7	2.6	2.6	1.8	2.6	1.0	1.1	1.2	0.5	2.6	3.2	4.0	2.4	1.1	0.6	2.2

EXER: R247 NATL % 7.6 Frequency person asks questions about why things in nature are the way they are.

UNADJ EFFECT	-0.5	3.4	-2.4	0.7	0.6	-0.5	1.1	3.9	-1.5	0.3	-2.5	-0.8	2.2	-0.6	5.0	-2.6	1.7	-0.9	0.0	0.0	0.2
STD ERROR	1.2	1.5	1.0	1.3	0.7	0.7	1.4	2.3	1.3	1.5	1.1	1.3	1.5	0.3	2.0	1.4	2.1	1.4	0.8	0.6	2.0
BAL EFFECT	0.3	2.0	-2.7	1.4	0.4	-0.4	2.0	2.4	-1.1	0.4	-2.5	-0.6	1.8	-0.3	3.5	-4.1	1.1	-1.7	-0.3	0.4	-0.9
STD ERROR	1.3	1.4	0.9	1.3	0.7	0.7	1.9	3.1	1.5	1.6	1.3	1.2	1.6	0.4	2.5	1.8	2.0	1.5	0.8	0.6	1.7

OBJECTIVE: Know the fundamental facts and principles of science.

EXER: R701 NATL % 94.9 (Test for this exercise was not released)

UNADJ EFFECT	-0.6	-0.5	1.4	-0.5	-0.5	0.4	-2.5	-1.5	1.9	-5.4	1.4	3.5	-1.8	1.1	-4.6	-2.7	0.3	-6.0	0.4	2.2	-3.7
STD ERROR	1.9	1.2	1.2	1.3	0.8	0.7	1.5	2.0	1.3	6.0	1.4	0.9	1.5	0.4	1.6	2.3	1.7	1.2	0.7	0.4	2.3
BAL EFFECT	-1.5	1.4	1.2	-0.9	-0.4	0.3	-2.3	2.3	1.1	-4.4	1.3	2.7	-2.4	0.9	-4.4	-1.4	1.1	-5.4	0.4	1.4	-3.1
STD ERROR	1.7	1.0	1.1	1.2	0.8	0.7	1.5	2.4	1.3	5.7	1.4	0.9	1.5	0.4	1.6	2.6	1.8	1.1	0.8	0.5	2.7

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME ATT. SUB.	INNER SUB. FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: U702 NATL % 94.7 (Text for this exercise was not released)																					
UNADJ EFFECT	0.8	-2.5	-0.4	2.0	1.1	-1.0	-4.1	-7.6	2.7	-2.1	-0.8	2.1	1.2	1.7	-9.2	-4.3	-4.3	-3.9	0.1	1.2	-0.9
STD ERROR	0.9	1.2	1.0	0.8	0.6	0.5	2.2	2.8	1.1	2.1	1.2	0.9	1.3	0.4	1.6	2.8	2.3	2.6	0.8	0.6	1.4
BAL EFFECT	0.1	-0.9	-1.2	2.0	1.2	-1.1	-1.2	-2.9	1.2	-1.8	-1.4	1.4	1.0	1.5	-7.7	-4.7	-2.1	-1.2	-0.1	0.8	0.5
STD ERROR	0.9	1.0	0.8	0.8	0.6	0.5	1.8	2.8	1.1	1.7	1.1	0.8	1.0	0.4	1.7	2.8	2.3	2.7	0.8	0.6	1.4
EXER: U703 NATL % 93.7 (Text for this exercise was not released)																					
UNADJ EFFECT	-0.6	-2.8	2.8	0.2	0.7	-0.5	-2.1	-7.4	0.7	-5.4	1.3	0.7	1.9	2.1	-10.0	-9.8	-9.0	-4.1	0.9	2.4	-7.1
STD ERROR	0.8	1.1	0.8	0.9	0.5	0.6	3.2	1.8	1.4	3.6	1.2	1.0	0.7	0.4	1.9	4.4	4.0	2.0	0.7	0.5	2.6
BAL EFFECT	-0.7	-2.1	1.4	0.8	0.5	-0.5	-1.6	-2.4	-0.7	-4.1	0.1	0.0	1.9	1.7	-7.6	-6.9	-6.9	-2.9	0.4	1.4	-4.4
STD ERROR	0.8	1.1	0.8	1.1	0.5	0.5	2.9	2.8	1.2	2.5	1.2	1.0	0.7	0.4	1.9	4.3	4.0	2.1	0.6	0.5	2.1
EXER: U704 NATL % 93.6 (Text for this exercise was not released)																					
UNADJ EFFECT	1.7	-4.5	0.6	1.5	0.5	-0.5	-6.6	-11.5	4.1	-1.1	1.1	0.1	2.9	2.2	-11.5	-7.1	-8.4	-3.8	1.0	1.9	-4.4
STD ERROR	1.0	1.6	1.0	1.1	0.6	0.5	4.4	4.6	1.0	2.1	1.2	1.3	1.0	0.5	2.3	2.3	1.4	1.9	0.9	0.6	2.3
BAL EFFECT	1.1	-2.2	-0.7	1.7	0.6	-0.6	-2.2	-5.5	2.4	-0.0	0.2	-0.9	1.6	1.4	-4.5	-6.7	-5.5	-2.6	0.7	1.3	-1.5
STD ERROR	1.0	1.1	0.9	1.0	0.6	0.5	1.7	4.3	1.2	1.6	1.2	1.2	1.0	0.4	2.1	2.5	1.2	1.4	0.9	0.6	2.0
EXER: U705 NATL % 93.2 (Text for this exercise was not released)																					
UNADJ EFFECT	1.1	-4.3	1.0	1.5	-1.3	1.2	-4.4	-5.0	2.7	0.4	-2.0	1.5	2.2	1.9	-10.4	-2.5	-0.8	-2.4	0.5	1.0	-1.9
STD ERROR	1.1	2.6	1.2	1.2	0.5	0.5	2.9	2.1	1.4	1.7	2.3	1.1	1.4	0.4	4.1	2.1	2.4	2.5	0.9	0.6	2.1
BAL EFFECT	0.9	-2.9	0.4	1.2	-1.4	1.3	-0.6	1.9	0.4	0.9	-3.2	0.0	2.2	1.8	-9.6	-3.4	0.2	-1.1	0.7	0.3	-2.7
STD ERROR	1.1	2.3	1.0	1.1	0.5	0.5	1.4	2.1	0.9	1.8	2.5	0.9	1.4	0.4	*4.0	2.5	2.6	1.9	0.9	0.7	2.6
EXER: U706 NATL % 85.7 (Text for this exercise was not released)																					
UNADJ EFFECT	1.4	-2.9	2.4	-1.7	2.4	-2.1	-0.1	-1.1	2.0	-4.5	-1.3	1.4	1.4	-.6	-9.4	-14.6	-8.4	-2.9	2.5	2.1	-11.0
STD ERROR	1.5	2.1	1.5	1.5	0.6	0.6	4.1	1.9	2.6	3.3	2.4	1.5	1.6	0.5	2.2	3.1	4.1	2.1	1.1	0.7	3.1
BAL EFFECT	1.6	-2.2	0.9	-0.6	2.3	-2.2	-0.1	4.1	0.6	-2.0	-1.4	0.4	1.6	2.3	-9.0	-12.0	-4.9	-1.2	1.4	1.6	-10.6
STD ERROR	1.5	2.1	1.4	1.6	0.6	0.6	4.1	2.9	2.0	2.5	2.4	1.3	1.6	0.5	2.5	3.0	3.9	2.1	1.1	0.8	3.1
EXER: U707 NATL % 84.6 (Text for this exercise was not released)																					
UNADJ EFFECT	4.1	-4.7	-0.2	-0.4	-1.1	1.1	-2.9	-22.9	8.5	-10.3	6.0	0.7	1.0	5.1	-25.4	-15.4	-20.0	-6.5	-0.4	5.4	-9.4
STD ERROR	2.1	2.5	2.4	2.3	0.8	0.9	4.0	3.9	1.4	5.4	2.1	1.1	2.5	0.8	3.3	4.1	4.0	2.6	1.5	0.9	4.4
BAL EFFECT	2.7	-0.4	-0.7	-1.4	-1.5	1.7	4.5	-8.4	4.4	-7.2	3.5	-1.6	-0.5	4.0	-21.5	-9.5	-15.9	-4.5	0.3	1.4	-6.2
STD ERROR	1.8	2.3	2.4	2.6	0.8	0.9	3.7	4.7	2.2	4.7	2.1	2.8	2.6	0.9	3.7	4.6	3.9	2.5	1.4	0.8	3.4
EXER: U708 NATL % 82.5 (Text for this exercise was not released)																					
UNADJ EFFECT	4.5	-6.5	2.5	-2.8	2.8	-2.6	-7.5	-14.7	8.0	-11.6	5.3	2.8	0.7	3.3	-17.1	-8.1	-12.3	-5.2	-1.0	4.6	-7.8
STD ERROR	1.5	2.7	1.9	1.8	0.9	0.8	4.5	3.3	1.9	4.4	1.9	2.0	2.1	0.6	2.8	5.1	4.4	2.6	1.6	1.2	3.1
BAL EFFECT	2.1	-2.5	1.8	-2.5	3.2	-2.9	-7.2	-4.0	5.1	-4.6	3.2	1.7	0.4	2.4	-13.5	-3.5	-4.4	-3.0	-0.6	2.6	-3.5
STD ERROR	1.5	2.7	2.0	1.4	0.9	0.8	3.5	4.0	1.7	3.8	2.1	1.8	2.5	0.6	2.9	4.4	4.7	2.5	1.5	1.1	3.2

EXPR: 0709 NATL % 80.9 (Text for this exercise was not released)

UNADJ EFFECT	3.5	-14.3	4.3	3.0	5.5	-4.7	-21.1	-19.2	8.8	-0.0	7.0	1.1	2.5	5.3	-26.7	-7.2	-23.5	-13.4	-0.8	7.2	-4.5
STD ERROR	1.9	3.2	1.8	2.1	1.0	0.9	4.6	3.5	2.8	4.1	1.9	2.0	2.8	1.0	3.3	4.5	5.7	3.0	1.6	1.2	3.1
BAL EFFECT	1.1	-6.7	2.2	1.7	4.9	-4.5	-13.7	-9.6	3.2	1.0	3.3	0.4	2.8	3.7	-19.2	-3.5	-15.2	-9.4	-2.0	5.1	-0.5
STD ERROR	1.5	2.3	1.4	1.9	0.9	0.8	2.5	3.0	2.2	3.2	1.6	1.7	1.8	0.8	1.1	4.2	4.6	3.0	1.5	0.9	2.3

EXPR: 0710 NATL % 79.2 (Text for this exercise was not released)

UNADJ EFFECT	0.3	-5.5	1.6	2.6	3.3	-3.1	-10.0	-5.2	10.1	-9.3	3.9	-0.3	0.2	2.6	-11.0	-8.8	-13.5	-4.1	-0.6	5.0	-9.0
STD ERROR	1.8	2.3	2.2	1.9	1.1	1.1	4.8	1.2	2.9	5.6	2.2	2.3	2.3	0.6	2.0	3.6	4.3	2.9	1.4	1.3	4.4
BAL EFFECT	-1.3	-7.0	0.4	2.6	1.3	-3.1	-7.4	0.8	6.9	-7.6	2.4	-0.9	0.0	1.9	-7.6	-6.9	-9.7	-1.7	-0.9	3.7	-7.0
STD ERROR	1.7	2.5	2.1	2.0	1.1	1.0	6.0	3.4	2.9	5.8	2.3	2.1	2.3	0.6	2.4	3.7	4.5	2.9	1.5	1.3	4.0

EXPR: 0711 NATL % 76.9 (Text for this exercise was not released)

UNADJ EFFECT	5.7	0.4	1.2	-4.4	1.7	-1.7	-4.6	-15.9	5.3	-2.9	0.7	3.5	-0.5	2.6	-11.4	-12.7	-17.6	3.6	-4.0	5.5	-9.2
STD ERROR	1.6	2.1	1.8	2.3	1.2	1.1	4.0	5.9	2.5	3.6	2.1	2.4	2.3	0.5	1.3	4.0	6.9	3.4	1.4	1.0	3.3
BAL EFFECT	4.7	1.3	0.4	-4.0	1.8	-1.6	-0.9	-4.4	6.4	-1.1	-0.8	1.8	-1.2	1.8	-4.2	-6.1	-14.2	4.8	-4.6	5.0	-7.3
STD ERROR	1.6	2.0	1.7	2.2	1.2	1.1	3.5	5.8	2.8	3.4	2.0	2.2	2.2	0.6	1.3	4.0	7.7	3.3	1.4	1.0	3.2

EXPR: 0712 NATL % 76.0 (Text for this exercise was not released)

UNADJ EFFECT	-0.4	-6.9	5.4	1.0	5.2	-4.7	-2.7	-19.9	6.4	-10.1	3.2	2.3	4.5	4.2	-22.9	-11.7	-22.4	-10.8	-2.0	6.5	-4.5
STD ERROR	2.3	3.0	1.7	1.9	1.0	0.9	5.2	6.1	1.6	5.2	2.9	1.9	2.1	0.9	3.3	6.9	4.8	3.0	1.6	1.0	4.2
BAL EFFECT	-0.4	-5.0	5.0	0.1	4.5	-4.3	-0.8	-11.8	3.4	-9.5	0.5	1.3	5.7	2.7	-15.8	-5.1	-19.4	-7.8	-2.7	5.0	1.0
STD ERROR	2.1	2.8	1.5	2.0	0.9	0.9	4.3	4.1	1.3	4.1	2.3	1.7	2.0	0.7	1.1	6.4	4.9	2.8	1.5	1.0	3.5

EXPR: 0713 NATL % 74.4 (Text for this exercise was not released)

UNADJ EFFECT	4.7	-4.9	2.9	-0.5	1.6	-1.4	-15.8	-21.9	14.7	-5.0	-0.0	6.8	0.1	4.7	-26.0	-6.2	-17.7	-11.0	-5.0	4.7	-9.6
STD ERROR	1.9	2.3	2.2	2.3	1.3	1.1	4.7	4.6	2.2	4.3	2.5	1.9	2.5	0.8	2.4	1.5	5.8	3.3	1.6	1.3	3.6
BAL EFFECT	3.1	-2.3	1.4	-3.2	1.6	-1.4	-8.1	-9.4	9.3	-3.0	-1.9	3.3	0.8	2.9	-19.4	1.8	-15.4	-7.4	-4.5	6.6	-5.2
STD ERROR	1.6	1.9	1.9	1.9	1.3	1.1	4.2	3.9	2.4	3.8	2.4	1.6	2.2	0.8	3.1	3.7	5.7	3.4	1.5	1.3	3.3

EXPR: 0714 NATL % 71.5 (Text for this exercise was not released)

UNADJ EFFECT	2.2	-2.7	1.4	-1.8	4.0	-4.0	-11.2	-11.2	-1.6	4.0	2.7	5.4	-0.7	3.1	-14.1	-6.2	-17.8	-2.1	-1.3	3.4	-1.9
STD ERROR	2.0	3.3	2.2	2.1	1.5	1.5	3.1	3.2	3.7	3.9	2.3	2.0	2.4	0.4	3.4	3.9	6.1	3.0	1.3	1.5	4.5
BAL EFFECT	-0.6	2.4	0.7	-2.2	3.8	-3.6	-9.6	-2.1	-4.0	4.3	1.9	3.7	-1.8	2.4	-11.7	-2.9	-14.3	-0.3	-1.4	3.2	-2.6
STD ERROR	1.8	2.2	2.0	1.6	1.4	1.4	2.9	4.3	3.7	3.4	2.2	1.8	2.5	0.9	3.4	4.1	6.0	2.6	1.2	1.3	4.2

EXPR: 0715 NATL % 69.7 (Text for this exercise was not released)

UNADJ EFFECT	8.1	-4.6	1.1	-6.9	-1.1	0.7	-12.3	-4.3	7.4	-5.1	4.6	0.5	0.2	1.0	-10.0	-19.2	-13.3	-5.4	-0.1	5.0	-11.9
STD ERROR	2.1	2.8	2.6	3.3	1.3	1.2	3.7	4.4	3.1	4.4	2.5	2.9	3.2	0.8	3.3	6.5	4.8	1.7	1.5	1.2	3.5
BAL EFFECT	5.9	-1.8	0.4	-5.8	-0.3	0.3	-12.3	5.5	5.3	1.3	1.3	-1.2	0.4	2.5	-4.1	-15.2	-7.1	-2.9	0.3	1.3	-10.8
STD ERROR	1.8	2.6	2.2	2.7	1.3	1.1	3.5	4.1	3.3	6.6	2.4	2.6	3.1	0.8	3.4	5.3	6.6	1.6	1.3	1.1	3.9

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME APP SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: 0716 NATL % 68.0 (Text for this exercise was not released)																					
UNADJ EFFECT	3.3	-0.4	0.[illegible]	-4.0	0.9	-0.4	-6.6	-5.8	3.9	1.9	-1.4	7.3	-4.3	2.1	-8.3	-11.5	-1.3	-4.4	0.9	2.1	-8.1
STD ERROR	1.9	2.0	1.8	2.0	1.2	1.0	3.3	2.9	3.3	4.1	2.2	1.8	2.1	0.5	2.4	3.1	4.4	1.0	1.4	1.0	3.1
BAL EFFECT	1.8	2.1	-0.2	-3.9	0.9	-0.9	-7.5	2.1	2.8	5.5	-2.7	6.4	-5.4	2.1	-8.4	-10.7	1.6	-4.1	1.3	1.3	-6.9
STD ERROR	1.8	2.2	1.9	2.0	1.1	1.0	3.4	1.8	3.4	3.8	2.1	1.8	2.1	0.6	2.9	4.0	4.8	2.9	1.5	1.1	3.4
EXER: 0717 NATL % 63.1 (Text for this exercise was not released)																					
UNADJ EFFECT	7.4	-11.6	1.4	1.0	8.3	-7.9	-8.7	-18.4	12.0	1.7	1.9	6.4	-2.4	6.3	-27.8	-14.1	-21.6	-13.8	-5.1	11.7	-7.1
STD ERROR	2.7	4.0	3.0	3.1	1.5	1.3	5.1	4.4	4.3	5.2	3.3	3.1	3.8	1.2	3.7	5.5	5.3	3.9	1.8	1.5	5.4
BAL EFFECT	5.0	-3.1	-2.0	-0.4	7.6	-7.3	-2.9	0.2	3.6	-3.9	-2.0	2.4	-2.3	5.1	-22.5	-11.3	-18.9	-9.6	-4.4	9.5	-7.5
STD ERROR	2.3	2.9	2.5	2.6	1.4	1.2	4.0	4.9	5.2	4.8	2.7	2.8	3.1	1.0	3.1	5.2	5.4	3.1	1.8	1.4	4.5
EXER: 0718 NATL % 61.7 (Text for this exercise was not released)																					
UNADJ EFFECT	-1.2	2.4	7.1	-6.6	0.8	-0.7	-8.3	-22.8	2.1	-8.1	5.9	-0.1	8.9	5.3	-20.3	-18.5	-21.5	-5.2	0.1	8.6	-21.2
STD ERROR	3.7	4.2	3.0	3.5	1.1	1.2	7.1	3.7	4.3	5.1	3.3	3.6	4.4	1.1	3.1	6.0	5.6	4.3	2.0	1.6	3.8
BAL EFFECT	-2.5	6.1	4.5	-7.2	0.4	-0.4	-7.8	-4.3	-0.3	-4.2	3.1	-2.4	6.4	3.6	-15.0	-8.3	-19.5	-5.3	-1.2	7.4	-13.4
STD ERROR	3.5	3.1	2.8	3.6	1.1	1.1	5.4	5.6	4.2	4.3	3.2	3.1	4.5	1.1	3.3	6.7	5.4	3.8	1.9	1.5	3.7
EXER: 0719 NATL % 61.8 (Text for this exercise was not released)																					
UNADJ EFFECT	6.1	-8.1	0.8	-0.5	0.5	-0.5	-18.7	-20.2	13.4	-2.2	5.6	-0.8	0.5	3.2	-19.1	-3.4	-11.1	-11.9	-0.2	3.3	0.4
STD ERROR	2.3	2.3	2.5	2.4	1.3	1.2	4.8	4.2	2.6	4.0	2.9	2.5	2.5	0.7	4.1	4.4	7.0	3.4	1.5	1.2	3.9
BAL EFFECT	4.5	-2.2	-0.6	-2.3	0.8	-0.7	-12.5	-12.9	11.2	-1.3	3.5	-2.1	0.9	2.1	-13.5	-0.1	-3.7	-8.9	-0.6	2.1	1.8
STD ERROR	2.2	2.2	2.3	2.1	1.3	1.2	4.5	4.3	2.7	3.8	3.1	2.1	2.7	0.7	4.0	3.8	6.6	3.4	1.4	1.1	3.4
EXER: 0720 NATL % 61.6 (Text for this exercise was not released)																					
UNADJ EFFECT	2.5	-7.0	1.6	2.0	1.2	-0.8	-8.0	-21.1	11.5	-5.9	4.6	7.5	-1.4	5.7	-22.8	-18.9	-15.6	-6.2	-1.9	8.3	-14.7
STD ERROR	2.5	3.9	2.7	2.1	1.3	1.2	5.2	4.7	3.9	2.3	2.4	2.9	3.5	1.1	3.2	5.1	6.1	4.2	1.4	1.3	4.3
BAL EFFECT	-0.1	-1.1	-0.7	1.8	0.6	-0.5	-5.0	-4.7	6.2	-3.2	2.4	3.7	-2.8	4.6	-14.0	-16.3	-9.2	-2.5	-1.5	5.8	-12.9
STD ERROR	2.2	2.8	2.6	2.0	1.2	1.1	4.1	5.3	3.7	2.1	2.4	2.7	3.3	1.1	3.5	5.2	6.0	3.5	1.5	1.1	3.5
EXER: 0721 NATL % 60.4 (Text for this exercise was not released)																					
UNADJ EFFECT	2.1	-3.5	-2.3	3.9	2.7	-2.5	-2.1	-15.4	10.1	0.5	2.1	4.2	-7.5	3.1	-15.0	-11.3	-11.9	-16.6	-5.2	8.2	-1.7
STD ERROR	3.2	3.4	4.5	2.8	1.4	1.2	5.8	5.0	2.9	3.9	3.7	3.3	6.0	0.7	3.4	4.3	6.3	4.0	1.8	1.2	4.5
BAL EFFECT	-0.3	0.6	-2.6	3.3	3.1	-2.8	4.0	-5.7	6.5	1.6	0.6	2.4	-7.0	2.9	-13.8	-11.2	-7.4	-14.0	-5.1	7.2	-1.2
STD ERROR	2.9	3.5	3.6	2.4	1.3	1.2	4.7	5.7	3.0	4.0	3.7	3.2	5.1	0.7	4.0	3.8	6.1	3.9	1.8	1.1	4.5
EXER: 0722 NATL % 58.2 (Text for this exercise was not released)																					
UNADJ EFFECT	0.6	-3.0	1.9	-0.5	-1.5	1.4	-7.1	-15.7	8.0	-5.7	-0.8	4.7	2.4	2.3	-10.8	-5.4	-17.7	-7.5	-2.5	5.7	-0.8
STD ERROR	2.3	2.8	2.1	2.7	1.3	1.2	4.4	5.1	3.9	4.3	2.2	3.2	3.3	0.8	3.6	5.1	5.6	3.5	1.9	1.4	3.6
BAL EFFECT	-0.1	-0.4	1.3	-1.4	-1.5	1.4	-3.7	-12.4	5.3	-5.3	-1.9	4.2	2.7	1.1	-6.2	-0.2	-15.0	-6.5	-3.0	4.7	2.9
STD ERROR	2.0	2.5	1.8	2.6	1.3	1.2	4.8	6.6	3.8	4.1	2.1	2.1	3.1	0.9	4.2	4.9	5.3	3.4	1.9	1.4	3.4

EXER: 0723 NATL % 58.5 (Text for this exercise was not released)

UNADJ EFFECT	-2.1	-6.2	6.7	-0.4	3.1	-3.4	-14.1	-27.4	6.2	3.9	4.4	2.7	2.7	4.4	-23.3	-10.3	-5.2	-15.4	-1.5	8.7	-18.7
STD ERROR	3.0	3.5	2.8	2.4	1.4	1.5	4.1	3.6	3.4	4.5	3.7	3.5	2.6	0.7	2.4	5.7	5.7	3.6	1.8	1.4	4.3
BAL EFFECT	-4.3	-1.2	6.2	-1.4	3.1	-3.4	-10.3	-15.0	4.7	6.4	2.4	0.9	0.8	2.6	-15.7	-2.0	-0.9	-13.3	-0.7	6.8	-16.1
STD ERROR	2.7	2.9	2.3	2.0	1.2	1.4	3.5	3.7	3.0	3.7	3.2	3.2	2.5	0.6	2.9	4.2	5.4	3.8	1.8	1.5	3.9

EXER: 0724 NATL % 58.6 (Text for this exercise was not released)

UNADJ EFFECT	4.4	-12.4	1.9	4.0	0.2	-0.2	-16.4	-23.2	17.5	-9.1	5.9	3.5	-2.7	5.1	-24.3	-19.7	-24.3	-17.4	-2.5	9.1	-9.5
STD ERROR	2.9	2.8	2.9	2.9	1.3	1.2	3.8	7.2	5.2	5.4	3.3	2.7	2.9	0.8	3.2	5.0	7.7	5.6	2.4	1.3	3.7
BAL EFFECT	1.1	-6.3	0.5	4.0	0.4	-0.4	-4.5	-9.7	11.7	-7.3	3.3	1.4	-2.9	3.9	-17.4	-18.4	-15.0	-13.1	-3.1	7.0	-5.2
STD ERROR	2.7	2.4	2.6	2.8	1.2	1.1	4.3	6.9	5.3	4.2	3.1	2.4	3.0	0.7	3.4	4.7	7.3	6.0	2.4	1.3	3.6

EXER: 0725 NATL % 58.2 (Text for this exercise was not released)

UNADJ EFFECT	0.1	-5.2	1.0	3.0	3.9	-4.4	-15.3	-20.4	14.7	-7.3	9.1	0.6	-2.9	3.3	-16.5	-9.8	-23.4	-14.2	-6.0	19.6	-6.7
STD ERROR	2.8	2.7	2.7	2.8	1.3	1.3	4.3	3.5	2.9	4.7	3.4	3.1	3.2	0.7	2.4	5.3	4.6	3.6	1.9	1.6	4.0
BAL EFFECT	-2.4	0.4	1.4	0.5	3.9	-4.4	-11.8	-12.5	11.3	-6.2	7.8	-0.3	-3.9	1.2	-7.9	0.0	-19.4	-12.2	-4.3	4.6	-6.2
STD ERROR	2.4	2.6	2.4	2.8	1.1	1.3	4.1	4.1	3.4	4.4	3.1	2.8	3.1	0.7	3.6	5.3	4.8	3.5	2.0	1.7	3.9

EXER: 0726 NATL % 56.5 (Text for this exercise was not released)

UNADJ EFFECT	2.1	-10.9	7.0	-1.3	5.1	-5.8	-11.6	-20.2	3.0	-0.9	8.0	2.4	0.4	3.9	-17.4	-14.8	-8.1	-9.0	-6.4	8.3	-5.8
STD ERROR	2.8	2.5	3.1	2.5	1.2	1.1	3.8	3.2	3.3	4.8	4.0	3.1	3.1	0.8	2.4	4.3	5.7	4.3	2.0	1.3	3.8
BAL EFFECT	0.4	-4.1	6.8	-1.6	4.9	-5.5	-5.9	-11.6	0.2	0.1	4.4	1.2	1.3	2.2	-9.3	-9.7	-2.5	-6.8	-6.6	6.6	-2.1
STD ERROR	2.7	2.4	2.9	2.4	1.2	1.3	3.6	3.7	3.0	4.2	3.8	3.0	2.8	0.8	3.7	4.4	5.7	4.3	2.0	1.3	3.6

EXER: 0727 NATL % 53.2 (Text for this exercise was not released)

UNADJ EFFECT	2.3	-3.5	-1.0	1.6	0.0	0.2	-9.5	-14.0	7.4	-6.4	1.6	4.5	-1.5	4.7	-25.6	-9.1	-2.9	-8.4	-0.1	2.8	-5.9
STD ERROR	3.0	4.0	2.6	2.3	1.0	1.0	4.6	5.4	4.6	3.7	4.3	2.4	2.7	0.8	3.2	4.5	5.3	3.4	2.0	1.2	3.3
BAL EFFECT	-0.3	1.3	-1.0	0.4	0.1	-0.1	-4.3	0.7	3.2	-3.2	-0.0	2.9	-3.1	4.5	-26.1	-7.1	0.8	-6.7	1.0	1.0	-2.0
STD ERROR	2.6	3.5	2.4	2.3	1.1	1.0	4.6	5.0	4.3	3.2	3.8	2.4	2.8	0.8	3.1	4.7	5.0	3.2	1.8	1.2	3.5

EXER: 0728 NATL % 53.3 (Text for this exercise was not released)

UNADJ EFFECT	7.4	-3.9	3.1	-4.6	1.7	-1.5	-15.0	-25.2	6.4	-7.8	2.1	9.7	0.9	4.5	-15.9	-25.6	-17.8	-10.2	-4.1	8.8	-14.4
STD ERROR	3.4	4.0	3.4	3.6	1.3	1.1	7.6	4.7	5.1	7.1	4.3	3.8	3.5	0.9	3.0	4.9	5.9	3.8	2.0	1.4	3.9
BAL EFFECT	6.4	0.1	1.5	-9.1	1.9	-1.6	-9.5	-16.1	2.9	-3.0	0.3	6.3	1.4	2.1	-7.0	-13.2	-14.1	-6.8	-4.4	7.1	-9.6
STD ERROR	3.2	3.5	3.3	3.6	1.3	1.2	7.1	5.1	5.3	6.7	4.0	3.5	3.6	0.8	3.2	5.1	5.5	3.4	1.8	1.3	4.3

EXER: 0729 NATL % 51.7 (Text for this exercise was not released)

UNADJ EFFECT	0.0	0.8	-0.6	0.2	-0.3	0.6	-6.8	-6.3	13.3	-10.1	-4.8	4.2	2.0	1.3	-3.9	-7.1	-8.6	-10.3	-0.9	4.7	-3.2
STD ERROR	2.7	3.4	3.1	2.9	1.2	1.1	4.6	3.4	4.3	4.5	3.6	2.9	4.1	0.7	3.5	4.3	6.3	3.6	1.7	1.5	3.3
BAL EFFECT	-0.4	2.3	-1.2	-0.0	-0.6	0.6	-5.1	-4.0	11.4	-9.1	-5.1	3.7	2.1	0.6	-7.7	-3.6	-7.6	-9.7	-0.8	3.7	-0.9
STD ERROR	2.5	3.1	2.9	3.0	1.2	1.1	4.4	4.1	4.7	4.8	3.4	2.8	4.1	0.7	3.6	4.4	5.8	3.6	1.6	1.5	3.4

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME APP.SUB.	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: U730 NATL % 50.5 (Text for this exercise was not released)																					
UNADJ EFFECT	-0.8	-8.3	5.2	2.1	1.1	-0.9	-8.3	-26.5	7.9	-11.8	-2.3	9.0	5.7	5.3	-26.0	-18.3	-3.1	-12.1	-4.5	7.8	-12.6
STD ERROR	2.5	2.9	3.1	2.6	1.5	1.4	3.9	4.1	3.2	3.7	2.3	3.1	3.0	0.9	2.7	4.7	5.8	3.8	1.9	1.6	3.2
BAL EFFECT	-1.7	-5.3	4.0	1.8	1.1	-1.0	-1.3	-11.6	2.1	-11.2	-4.5	6.2	6.0	3.4	-17.1	-8.2	-0.5	-9.2	-8.1	5.4	-5.3
STD ERROR	2.3	2.3	2.4	2.1	1.5	1.3	3.6	4.0	3.0	3.5	2.3	2.8	2.7	0.8	3.0	4.7	5.2	4.1	1.7	1.6	3.1
EXER: U731 NATL % 49.7 (Text for this exercise was not released)																					
UNADJ EFFECT	2.1	-4.9	3.9	-1.6	3.8	-3.5	-3.3	-19.5	7.8	-9.6	7.1	-1.9	4.6	5.0	-21.8	-22.3	-18.5	-8.4	0.8	4.7	-11.0
STD ERROR	2.5	2.6	2.2	2.2	1.2	1.1	5.5	4.8	3.6	3.7	3.5	2.3	2.2	0.7	3.2	3.6	5.7	3.2	1.5	1.4	4.7
BAL EFFECT	1.1	-3.2	2.1	-0.4	3.5	-3.4	-2.3	-8.5	5.1	-6.9	3.9	-3.4	4.7	3.8	-16.3	-17.4	-8.5	-4.9	-0.2	2.9	-5.2
STD ERROR	2.1	2.1	2.2	2.0	1.2	1.1	6.1	3.5	3.1	2.7	2.9	2.3	2.1	0.7	3.1	4.1	5.6	3.2	1.5	1.4	4.1
EXER: U732 NATL % 49.5 (Text for this exercise was not released)																					
UNADJ EFFECT	2.2	-13.2	6.3	1.9	4.6	-4.0	-15.6	-21.7	13.0	-0.0	2.3	1.1	3.5	3.9	-19.3	-10.5	-19.9	-9.0	-2.9	7.4	-10.4
STD ERROR	3.3	2.6	2.9	2.9	1.5	1.3	5.8	3.7	5.4	4.6	3.6	3.6	3.6	0.8	2.8	4.9	4.8	4.0	1.7	1.4	3.8
BAL EFFECT	1.8	-8.8	4.9	-0.0	4.4	-3.9	-8.3	-12.7	8.0	0.1	-0.2	-0.9	5.1	1.8	-9.2	-3.4	-15.6	-5.1	-2.9	5.4	-6.3
STD ERROR	3.2	2.8	2.7	2.6	1.4	1.3	4.6	4.8	6.0	4.3	3.5	3.3	3.1	0.8	3.3	4.6	4.6	3.8	1.6	1.4	3.7
EXER: U733 NATL % 47.1 (Text for this exercise was not released)																					
UNADJ EFFECT	-2.4	-3.0	6.2	-3.1	8.2	-7.6	-11.4	-12.7	3.9	-7.6	3.4	0.6	5.4	3.2	-11.6	-14.3	-12.9	-1.4	-1.5	4.6	-7.7
STD ERROR	2.3	3.1	2.3	2.6	1.3	1.2	4.5	3.4	3.7	3.8	3.0	2.8	3.1	0.9	3.7	4.3	5.3	3.3	1.9	1.6	3.0
BAL EFFECT	-3.6	-0.4	5.1	-2.7	8.2	-7.6	-10.0	-6.5	1.7	-6.0	2.3	0.2	4.6	1.9	-7.1	-7.6	-9.6	0.9	-2.8	4.0	-4.3
STD ERROR	2.2	3.0	2.1	2.5	1.3	1.2	4.5	4.1	3.5	3.3	2.8	2.7	2.8	0.8	4.0	3.9	4.9	3.3	1.9	1.5	3.4
EXER: U734 NATL % 47.5 (Text for this exercise was not released)																					
UNADJ EFFECT	1.3	-6.1	1.4	1.8	11.6	-13.2	-10.0	-19.9	5.9	-1.3	4.1	1.6	1.8	4.3	-23.1	-9.1	-12.9	-3.1	-2.8	6.0	-10.7
STD ERROR	1.9	2.3	2.8	2.4	1.1	1.3	4.3	3.1	2.9	6.2	2.8	2.6	2.8	0.8	2.6	4.5	4.8	4.1	1.6	1.3	3.7
BAL EFFECT	-1.9	-1.4	1.6	1.2	11.6	-13.0	-6.6	-6.7	3.9	0.1	1.3	0.3	0.7	3.1	-17.6	-4.5	-7.2	-1.8	-1.9	4.2	-9.0
STD ERROR	1.7	2.0	2.4	2.4	1.2	1.4	3.3	3.4	2.6	5.1	2.9	2.4	2.2	0.8	3.2	4.1	4.6	4.3	1.5	1.2	3.3
EXER: U735 NATL % 45.5 (Text for this exercise was not released)																					
UNADJ EFFECT	3.4	-7.6	5.9	-4.1	3.6	-3.1	-9.4	-17.5	0.1	-3.8	-0.1	8.6	1.1	3.9	-17.3	-14.8	-11.0	-12.0	-0.2	4.9	-7.4
STD ERROR	2.8	3.3	3.0	2.5	1.3	1.1	4.4	4.5	3.2	4.5	2.6	3.7	3.4	0.8	3.0	4.6	4.8	3.6	2.2	1.6	4.5
BAL EFFECT	2.2	-4.4	4.4	-3.9	3.3	-2.9	-3.8	-7.8	-3.5	-2.6	-2.1	6.2	2.0	2.4	-11.0	-8.1	-8.3	-9.1	-0.4	3.6	-3.7
STD ERROR	2.5	3.1	2.8	2.4	1.3	1.1	4.0	5.0	3.4	4.8	2.7	3.5	3.0	0.7	3.5	4.9	5.2	3.8	2.1	1.3	4.5
EXER: U736 NATL % 44.3 (Text for this exercise was not released)																					
UNADJ EFFECT	0.3	-10.1	4.7	3.6	-0.3	0.5	-3.9	-9.2	3.1	-2.8	-3.3	6.1	3.2	2.8	-10.6	-9.9	-18.4	0.9	-1.8	4.6	-9.9
STD ERROR	2.5	3.1	3.1	2.2	1.3	1.3	6.7	4.8	5.3	4.5	2.6	3.3	4.5	0.6	3.1	3.5	7.1	3.9	1.8	1.4	3.5
BAL EFFECT	0.6	-10.0	3.8	4.2	-0.8	0.7	-2.1	-3.8	-0.9	-2.0	-5.1	4.9	3.8	1.5	-8.4	-9.1	-11.3	3.1	-1.2	3.2	-8.3
STD ERROR	2.6	3.2	3.3	2.3	1.3	1.2	6.1	5.0	4.9	4.1	2.6	3.2	4.6	0.8	3.7	4.2	8.0	3.9	1.5	1.5	3.6

EXER: 0737 NATL % 82.5 (Text for this exercise was not released)

UNADJ EFFECT	0.7	-4.7	5.0	-1.5	7.9	-7.7	1.1	-9.7	10.6	-2.3	3.9	-5.4	0.7	2.9	-12.2	-14.1	-9.8	-5.5	-1.1	4.5	-9.0
STD ERROR	2.3	2.5	2.5	2.4	1.4	1.4	7.3	4.8	3.5	3.8	2.7	2.6	3.0	0.6	2.9	3.5	5.0	2.9	1.8	1.4	3.4
BAL EFFECT	0.8	-3.7	3.6	-1.1	7.9	-7.7	1.2	-3.0	8.8	0.0	1.3	-6.4	1.2	2.3	-8.8	-11.6	-4.9	-1.8	-1.6	3.1	-5.9
STD ERROR	2.3	2.7	2.6	2.3	1.4	1.3	8.0	3.8	3.1	3.2	2.6	2.6	3.1	0.6	3.4	3.4	4.9	2.9	1.8	1.3	3.5

EXER: 0738 NATL % 40.5 (Text for this exercise was not released)

UNADJ EFFECT	0.2	2.0	0.1	-1.8	4.4	-5.0	-10.5	-16.4	0.8	0.8	3.5	-0.0	6.2	3.9	-20.1	-10.1	-0.6	-12.9	-3.8	6.5	-5.0
STD ERROR	2.9	3.0	2.5	2.4	1.5	1.6	5.5	3.4	3.7	3.5	4.0	3.3	2.9	0.7	2.4	4.2	5.6	3.5	1.6	1.1	4.7
BAL EFFECT	-1.9	5.9	-0.6	-2.0	4.4	-4.9	-6.1	-3.5	-2.1	3.4	2.2	-1.8	4.4	3.3	-19.3	-6.7	2.7	-12.8	-3.5	5.5	-2.7
STD ERROR	2.6	2.8	2.3	2.2	1.4	1.6	5.0	3.6	3.8	3.0	3.9	2.9	2.9	0.7	2.8	4.6	5.5	3.6	1.6	1.2	4.6

EXER: 0739 NATL % 38.7 (Text for this exercise was not released)

UNADJ EFFECT	2.4	-1.6	3.3	-4.6	0.4	-0.5	-1.4	-15.0	6.1	0.1	-0.8	5.6	-1.5	3.4	-10.6	-19.0	-17.7	-8.3	-2.2	7.2	-5.7
STD ERROR	2.6	3.5	2.5	2.2	1.6	1.5	3.8	4.5	5.1	6.5	2.6	2.5	2.9	0.7	3.6	4.6	4.9	3.6	1.8	1.4	4.4
BAL EFFECT	1.6	1.4	1.8	-4.7	0.2	-0.2	0.8	-6.9	3.9	1.2	-2.3	3.9	-1.9	2.2	-6.8	-11.9	-14.3	-6.9	-2.5	6.4	-4.4
STD ERROR	2.4	3.4	2.2	2.1	1.5	1.5	3.5	5.0	4.6	6.2	2.5	2.4	2.9	0.7	3.7	4.9	5.0	3.6	1.7	1.4	4.2

EXER: 0740 NATL % 37.0 (Text for this exercise was not released)

UNADJ EFFECT	0.4	-4.6	4.9	-2.7	4.0	-3.5	-13.1	-12.7	12.3	-4.1	0.5	-0.1	2.6	2.4	-12.9	-5.7	-13.6	-13.4	-0.9	6.8	-10.9
STD ERROR	2.6	2.8	2.7	2.6	1.4	1.3	4.5	4.3	6.9	3.4	2.4	2.8	2.7	0.6	2.4	4.1	4.8	3.5	1.8	1.6	3.2
BAL EFFECT	-0.6	0.7	3.2	-4.1	3.9	-3.6	-7.9	-6.2	11.8	-2.8	-0.5	-1.6	1.7	1.4	-8.1	-1.0	-9.3	-12.3	-1.1	6.2	-9.7
STD ERROR	2.6	2.8	2.4	2.4	1.4	1.2	4.9	4.2	6.0	2.9	2.6	2.6	2.7	0.5	2.6	3.9	5.5	4.1	1.8	1.7	3.5

EXER: 0741 NATL % 34.6 (Text for this exercise was not released)

UNADJ EFFECT	7.4	-3.2	-3.1	-1.5	3.0	-2.7	4.2	6.7	-2.2	0.5	6.6	-1.2	-7.1	-0.2	1.3	-0.1	6.7	0.1	-1.2	0.3	-0.6
STD ERROR	2.2	2.3	2.0	2.3	1.4	1.3	4.8	4.6	3.1	2.4	3.1	2.4	2.3	0.5	2.9	3.9	6.3	3.9	1.8	1.4	3.4
BAL EFFECT	6.6	-2.7	-3.4	-0.7	2.7	-2.5	6.5	6.3	-1.7	2.1	4.6	-1.9	-5.9	0.3	0.3	-3.1	4.4	1.1	-1.1	0.3	-3.1
STD ERROR	2.0	2.4	1.9	2.4	1.4	1.3	4.5	4.8	3.1	2.9	2.6	2.4	2.4	0.6	2.9	4.9	6.6	4.0	1.8	1.6	3.8

EXER: 0742 NATL % 28.4 (Text for this exercise was not released)

UNADJ EFFECT	4.2	-5.5	3.3	-4.1	3.0	-2.8	-0.5	-13.4	2.7	-9.8	5.7	0.9	0.8	4.2	-18.1	-12.0	-17.2	-15.2	0.5	5.9	-4.5
STD ERROR	3.3	3.0	3.2	2.6	1.2	1.1	6.4	3.5	5.4	3.5	4.4	3.0	4.0	0.8	2.3	3.5	2.9	2.6	1.9	1.3	5.9
BAL EFFECT	2.6	-0.9	1.6	-4.2	2.8	-2.6	5.4	-5.4	-0.8	-7.5	3.0	-0.5	0.8	3.0	-14.4	-5.5	-13.4	-13.8	-0.8	5.2	-0.3
STD ERROR	3.2	3.2	3.2	2.9	1.2	1.1	6.0	3.0	6.1	3.8	4.3	3.0	3.8	0.7	2.5	3.9	2.8	2.6	1.9	1.3	5.4

EXER: 0743 NATL % 29.0 (Text for this exercise was not released)

UNADJ EFFECT	-0.7	-5.5	1.7	3.7	-0.1	0.1	-9.3	-15.3	12.2	-7.9	-0.1	5.0	0.2	3.3	-15.0	-11.1	-7.1	-10.8	-4.4	7.4	-10.3
STD ERROR	2.7	2.5	2.7	2.5	1.1	1.0	4.5	2.8	4.7	3.8	3.1	2.6	2.8	0.6	2.0	3.4	4.8	2.6	1.6	1.1	2.9
BAL EFFECT	-1.8	-2.1	0.7	3.0	0.1	-0.1	-4.4	-5.3	7.7	-7.0	-1.6	3.2	0.3	2.0	-9.0	-6.9	-4.5	-8.7	-3.9	5.6	-6.0
STD ERROR	2.5	2.4	2.3	2.3	1.1	1.0	4.7	2.8	4.2	4.1	2.9	2.4	2.5	0.6	2.3	3.6	4.7	2.5	1.6	1.2	3.1

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME APP SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: 0744 NATL % 28.4 (Text for this exercise was not released)																					
UNADJ EFFECT	3.3	-4.7	0.5	0.2	1.5	-1.2	-3.0	-10.2	3.9	-3.5	-0.8	8.5	-3.0	2.3	-10.0	-5.1	-2.5	-11.5	-2.4	5.2	0.8
STD ERROR	1.9	2.3	2.3	1.7	1.3	1.3	4.7	2.9	4.2	3.0	2.5	2.2	2.2	0.6	2.3	3.6	5.9	2.6	1.5	1.1	3.5
BAL EFFECT	2.7	-2.4	-0.1	-0.6	1.1	-1.0	-0.5	-6.3	0.6	-4.1	-2.4	7.5	-1.9	1.1	-4.8	-2.0	-1.1	-10.2	-2.4	4.4	2.2
STD ERROR	1.8	2.2	2.1	2.0	1.3	1.3	4.9	3.3	3.9	2.7	2.4	2.3	2.3	0.6	2.6	4.1	6.5	2.5	1.4	1.0	3.4
EXER: 0745 NATL % 24.9 (Text for this exercise was not released)																					
UNADJ EFFECT	0.1	-0.5	0.8	-0.6	4.4	-3.7	-3.2	-2.5	5.5	-2.2	1.3	-1.9	0.6	1.8	-7.5	-7.1	-0.1	-3.2	-5.0	4.5	-6.4
STD ERROR	2.6	2.8	2.2	2.2	1.3	1.1	2.6	4.3	3.6	3.0	3.6	2.3	2.1	0.5	2.2	3.0	5.5	3.7	1.8	1.2	3.5
BAL EFFECT	-0.4	0.7	0.7	-1.0	4.1	-3.8	-1.7	3.9	3.0	0.7	0.2	-2.7	0.5	1.7	-7.2	-6.7	2.0	-2.4	-4.9	4.1	-6.2
STD ERROR	2.5	2.5	2.3	2.1	1.2	1.0	2.8	4.6	3.4	2.8	3.3	2.2	2.0	0.6	2.4	3.5	5.6	3.7	1.8	1.2	3.6
EXER: 0746 NATL % 21.1 (Text for this exercise was not released)																					
UNADJ EFFECT	-0.6	-4.1	3.0	0.6	3.2	-3.6	-8.3	-7.2	6.4	-2.8	1.4	-0.4	1.5	1.6	-9.6	-1.2	-11.5	-12.1	-2.4	7.6	-11.4
STD ERROR	1.9	2.0	2.1	2.1	1.1	1.2	2.6	3.1	2.5	2.8	2.4	2.4	2.1	0.4	2.1	4.2	3.1	2.4	1.5	1.1	2.4
BAL EFFECT	-1.9	-0.8	3.0	-0.7	3.4	-3.8	-6.2	-1.7	5.2	-1.8	0.2	-1.2	1.2	0.5	-5.4	4.2	-10.4	-11.2	-1.8	7.0	-11.5
STD ERROR	1.8	2.2	1.8	1.9	1.1	1.2	2.8	3.2	2.3	2.6	2.4	2.1	2.0	0.4	2.3	3.8	3.1	2.4	1.4	1.1	2.6
EXER: 0747 NATL % 8.1 (Text for this exercise was not released)																					
UNADJ EFFECT	0.3	0.8	0.6	-1.6	0.3	-0.3	-1.4	5.0	-4.0	-0.7	1.1	1.9	-1.3	-0.8	2.0	6.2	-4.5	-1.4	0.2	0.2	1.7
STD ERROR	1.4	1.5	1.4	1.2	0.8	0.8	2.2	2.1	1.7	2.1	1.8	1.8	1.4	0.4	1.6	3.3	1.8	1.7	0.9	0.9	2.7
BAL EFFECT	-0.2	1.4	0.6	-1.5	0.3	-0.3	-1.8	2.7	-3.5	-1.4	1.6	2.2	-1.3	-0.8	1.0	8.0	-6.7	-2.1	0.1	0.6	1.6
STD ERROR	1.4	1.7	1.4	1.2	0.8	0.8	2.2	2.4	1.7	2.1	1.8	1.8	1.4	0.4	2.0	3.5	2.1	1.8	1.0	0.8	2.6
OBJECTIVE: Possess the ability and skills needed to engage in the processes of science.																					
EXER: 0748 NATL % 92.5 (Text for this exercise was not released)																					
UNADJ EFFECT	3.8	-8.3	3.3	-1.2	0.7	-0.3	-5.5	-9.5	4.8	-6.8	5.3	0.7	-0.4	4.2	-18.9	-10.9	-12.0	-6.7	0.6	4.3	-8.1
STD ERROR	1.1	2.9	1.1	1.6	0.6	0.5	3.1	3.1	1.8	4.4	1.1	1.3	2.7	0.9	3.4	3.0	4.1	2.5	0.9	0.8	3.1
BAL EFFECT	2.1	-4.0	1.5	-0.8	0.1	-0.1	-0.1	-0.8	1.5	-4.3	2.3	-0.6	-0.6	3.5	-15.9	-8.3	-6.1	-4.0	-0.5	3.0	-4.5
STD ERROR	0.8	1.6	1.0	1.4	0.6	0.5	2.1	2.8	2.5	3.5	0.8	0.9	1.9	0.9	3.3	2.9	3.5	2.5	0.8	0.6	2.5
EXER: 0749 NATL % 90.4 (Text for this exercise was not released)																					
UNADJ EFFECT	[illegible].2	-3.7	-1.7	2.8	-1.1	1.0	-7.0	-11.0	4.3	-1.3	2.1	2.8	-1.8	3.0	-14.9	-8.7	-16.7	-4.8	-0.5	4.8	-14.6
STD ERROR	1.1	2.3	1.4	1.1	0.7	0.6	3.9	3.3	2.3	1.9	1.4	1.3	1.5	0.5	2.7	2.7	6.4	2.6	1.1	0.9	3.0
BAL EFFECT	0.9	-0.7	-2.1	2.1	-0.9	0.8	-2.1	-0.6	0.9	1.7	0.7	1.0	-2.3	2.4	-12.3	-6.7	-13.9	-3.6	0.1	3.8	-13.1
STD ERROR	0.9	1.6	1.2	0.8	0.6	0.6	3.2	3.3	2.3	1.9	1.2	1.0	1.4	0.5	2.7	2.5	6.2	2.3	1.0	0.9	3.3
EXER: 0750 NATL % 79.1 (Text for this exercise was not released)																					
UNADJ EFFECT	5.5	-9.5	-0.1	2.6	-3.5	3.0	-21.6	-22.5	13.1	-9.6	3.2	2.2	4.5	5.1	-25.9	-16.8	-13.4	-9.2	-2.7	7.0	-10.4
STD ERROR	1.9	2.8	2.4	1.9	1.1	1.0	4.2	4.7	2.2	5.4	2.4	2.2	2.4	0.8	3.3	4.7	5.4	3.9	1.8	1.1	4.2
BAL EFFECT	3.6	-3.4	-2.4	2.3	-3.0	2.8	-13.5	-8.8	9.3	-7.0	0.9	-0.1	4.1	4.0	-19.2	-15.7	-8.2	-4.9	-3.4	5.3	-7.2
STD ERROR	2.0	2.8	2.1	1.6	1.0	0.9	3.5	4.3	2.8	4.5	2.6	2.2	2.2	0.7	3.0	4.4	4.3	3.5	1.8	1.1	3.4

EXER: 0751 NATL % 73.4 (Text for this exercise was not released)

UNADJ EFFECT	3.9	-2.9	-3.2	1.8	4.2	-4.0	-5.9	-8.6	7.8	-15.5	7.6	3.8	-2.3	2.5	-8.3	-15.6	-6.7	-4.0	-3.2	5.1	-7.8
STD ERROR	2.3	2.3	2.3	2.1	1.1	1.1	7.2	4.3	2.5	4.8	2.3	1.9	2.1	0.6	3.1	3.6	4.7	3.2	1.8	1.1	2.8
BAL EFFECT	2.8	-1.6	-3.2	2.0	3.9	-3.8	-4.9	-2.7	5.7	-13.0	5.4	2.3	-1.3	1.8	-4.5	-13.7	-2.6	-1.8	-2.9	3.4	-4.0
STD ERROR	2.0	2.3	2.0	2.3	1.1	1.1	7.5	4.4	2.3	4.7	2.4	1.9	2.2	0.6	3.4	3.3	4.6	3.2	1.7	1.0	3.0

EXER: 0752 NATL % 72.2 (Text for this exercise was not released)

UNADJ EFFECT	-3.0	-7.7	8.4	-0.6	3.3	-3.4	-6.5	-30.4	5.4	-5.1	6.3	4.1	3.2	6.3	-27.0	-12.0	-18.2	-4.1	-1.0	9.1	-22.2
STD ERROR	4.3	2.8	2.5	2.7	1.2	1.3	6.5	10.5	3.2	4.5	2.6	3.0	3.3	1.8	5.4	3.7	4.8	3.3	2.2	1.6	8.1
BAL EFFECT	-2.3	-4.3	6.3	-1.4	2.9	-3.0	-4.4	-11.1	1.5	-1.9	2.9	1.8	1.2	4.2	-19.4	-6.7	-18.3	-1.1	-2.5	6.5	-11.5
STD ERROR	2.3	2.3	2.0	2.3	1.1	1.1	4.1	7.0	3.1	4.0	2.2	2.5	2.2	1.2	3.7	4.6	5.2	3.1	1.8	1.1	4.4

EXER: 0753 NATL % 69.9 (Text for this exercise was not released)

UNADJ EFFECT	-3.7	-5.6	7.6	-0.6	1.1	-1.1	-4.1	-36.8	10.7	-6.2	9.3	-0.6	5.8	8.3	-34.7	-18.2	-24.6	-5.4	1.0	9.4	-27.3
STD ERROR	4.2	4.1	2.5	3.1	1.3	1.3	6.7	6.3	3.5	4.7	3.0	3.4	2.8	1.6	3.8	4.6	6.6	3.6	2.2	2.0	7.1
BAL EFFECT	-2.8	-0.4	4.1	-1.3	0.6	-0.7	-0.7	-9.4	5.5	-1.8	4.7	-4.0	2.5	6.3	-26.9	-11.5	-20.7	-3.4	-0.6	7.0	-14.4
STD ERROR	2.4	2.6	1.7	2.5	1.1	1.2	3.0	3.6	3.3	3.3	2.4	2.6	2.1	1.2	3.1	5.0	5.8	3.3	1.8	1.6	4.0

EXER: 0754 NATL % 63.0 (Text for this exercise was not released)

UNADJ EFFECT	7.9	-6.9	-0.6	-1.6	1.8	-1.7	-4.5	-23.9	15.2	2.3	4.1	7.6	-7.2	5.8	-24.8	-15.3	-18.9	-10.3	-4.7	11.2	-11.4
STD ERROR	2.9	3.9	3.3	2.4	1.3	1.3	4.0	5.1	4.0	4.3	3.3	2.6	4.4	1.1	3.2	5.1	5.4	3.4	1.6	1.3	4.4
BAL EFFECT	5.4	0.9	-2.9	-3.5	1.3	-1.3	-0.3	-7.7	9.5	4.1	0.9	1.5	-7.5	4.4	-19.6	-9.4	-12.9	-6.7	-4.4	9.3	-10.9
STD ERROR	2.4	2.8	3.0	2.0	1.2	1.2	3.4	5.9	3.6	4.5	3.0	2.2	4.0	1.0	2.9	4.5	5.6	2.6	1.7	1.2	3.8

EXER: 0755 NATL % 59.1 (Text for this exercise was not released)

UNADJ EFFECT	3.0	-12.6	5.0	1.1	7.8	-5.5	-6.1	-18.4	-5.3	15.1	-2.4	5.6	0.9	3.2	-19.4	-1.6	-9.1	-12.6	-2.4	7.6	-19.4
STD ERROR	3.9	3.9	3.6	4.2	2.6	2.1	8.5	7.7	7.2	6.8	4.5	4.1	4.9	1.2	5.7	9.0	12.3	6.4	3.2	2.6	7.0
BAL EFFECT	0.3	-8.3	4.5	1.1	5.8	-5.1	-4.7	-5.2	-8.5	14.3	-6.1	4.7	2.3	2.5	-15.1	-2.1	-6.8	-11.9	-1.9	6.3	-14.0
STD ERROR	4.1	4.5	3.5	4.2	2.3	2.0	8.6	8.0	6.9	7.6	4.8	3.9	4.8	1.3	5.8	9.3	14.3	6.7	3.1	2.6	7.2

EXER: 0756 NATL % 55.0 (Text for this exercise was not released)

UNADJ EFFECT	6.0	-12.6	5.1	-0.5	1.4	-1.1	-6.5	-23.2	17.1	-6.4	6.7	6.7	-4.5	6.2	-25.3	-18.2	-18.6	-14.9	-2.9	9.7	-5.7
STD ERROR	2.7	4.2	2.6	2.3	1.4	1.2	5.4	4.6	3.4	5.7	3.2	2.7	3.3	1.3	4.2	5.1	4.9	4.0	1.6	1.7	5.5
BAL EFFECT	3.6	-5.8	2.9	-1.7	0.6	-0.5	-2.1	-8.4	11.2	-5.8	3.1	3.4	-4.0	4.1	-16.9	-12.2	-11.5	-10.4	-2.5	7.0	-4.2
STD ERROR	2.3	3.1	2.4	1.9	1.2	1.1	4.6	5.7	3.3	5.2	2.9	2.3	2.6	1.2	4.3	4.9	4.9	3.4	1.5	1.5	4.8

EXER: 0757 NATL % 52.2 (Text for this exercise was not released)

UNADJ EFFECT	-0.4	-3.9	2.0	1.2	7.5	-7.7	-4.8	-6.4	2.6	-3.0	0.8	-0.1	3.9	2.4	-9.9	-5.5	-20.9	-4.8	3.0	4.1	-12.4
STD ERROR	3.0	3.1	3.2	2.7	1.3	1.5	4.6	4.1	3.9	5.2	3.7	2.8	3.7	0.8	2.8	5.3	4.5	4.1	1.8	1.4	3.2
BAL EFFECT	-0.3	-1.9	0.6	1.1	7.2	-7.4	-2.6	3.0	0.0	-1.1	-0.7	-2.0	3.4	1.6	-6.8	-3.7	-19.4	-2.8	2.3	3.5	-10.1
STD ERROR	2.6	2.9	2.9	2.8	1.3	1.4	5.0	4.3	3.9	5.3	3.4	2.5	3.3	0.8	3.2	5.5	4.9	4.0	1.8	1.4	3.2

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME APT.	INNER SUB.	URBAN FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	SOME	SOME	GRADUATED	POST	GRADUATE
ITEM: 0758 NATL % 89.9 (Test for this exercise was not released)																					
UNADJ EFFECT	18.5	-18.2	-5.0	2.5	1.8	-1.6	-22.2	-26.7	28.1	-7.5	6.2	-0.1	-1.1	5.6	-15.6	-8.7	-8.5	-27.1	1.0	8.8	-3.5
STD ERROR	1.9	4.3	4.2	1.8	2.2	2.6	7.9	5.1	6.0	7.1	8.8	8.7	1.9	0.9	1.9	8.3	8.2	6.6	1.0	2.8	7.7
BAL EFFECT	12.3	-7.9	-5.7	0.2	0.6	-0.7	-10.1	-17.1	19.8	-8.8	1.1	-1.9	0.6	3.9	-21.8	-8.1	6.5	-15.9	1.0	0.7	1.3
STD ERROR	1.8	4.8	3.8	1.7	2.2	2.5	7.8	8.9	6.0	7.2	8.3	8.3	1.8	1.0	8.6	7.9	8.9	4.8	1.0	2.6	8.0
ITEM: 0759 NATL % 47.0 (Test for this exercise was not released)																					
UNADJ EFFECT	8.5	-9.6	2.8	1.2	6.5	-6.1	-8.3	-22.6	16.1	-3.8	11.1	-1.7	-5.8	5.1	-29.9	-28.1	-27.5	-16.9	-7.0	9.0	-10.6
STD ERROR	1.8	3.6	2.3	2.5	1.1	1.2	6.6	1.5	3.9	5.5	3.1	2.9	2.8	0.8	2.8	3.5	8.5	1.3	4.9	1.8	3.6
BAL EFFECT	2.0	-8.2	0.1	1.8	6.1	-5.9	-2.0	-6.6	11.1	0.0	6.9	-8.1	-8.6	5.1	-29.1	-19.6	-18.8	-11.2	-2.1	6.1	-5.6
STD ERROR	2.8	2.7	2.1	2.2	1.2	1.7	5.7	5.1	3.8	3.8	2.8	2.7	2.6	0.8	2.7	3.8	8.5	3.2	1.7	1.3	3.3
ITEM: 0760 NATL % 82.7 (Test for this exercise was not released)																					
UNADJ EFFECT	15.0	-11.1	-5.7	2.0	2.8	-1.0	-17.1	-28.2	10.8	-10.8	9.8	-2.8	-8.6	5.9	-18.0	-18.6	-8.3	-26.6	2.2	5.9	-6.0
STD ERROR	8.2	8.7	8.3	8.8	2.3	2.7	8.8	8.9	6.1	6.6	5.0	8.9	8.8	0.9	3.3	6.6	8.1	5.8	3.2	3.1	7.8
BAL EFFECT	12.6	-6.0	-6.8	-0.8	2.2	-2.5	-5.6	-17.6	27.1	-7.6	8.6	-8.9	-1.8	8.0	-21.3	-11.0	8.7	-18.2	2.9	0.8	-2.9
STD ERROR	8.2	8.9	8.2	8.1	2.1	2.8	8.1	8.9	6.5	6.0	6.6	8.7	8.1	0.9	3.8	6.8	7.0	5.7	3.1	3.8	7.1
ITEM: 0761 NATL % 81.2 (Test for this exercise was not released)																					
UNADJ EFFECT	3.2	-10.6	3.9	2.0	-0.8	0.6	-0.6	-18.0	11.0	-8.1	8.2	3.8	-8.8	3.8	-16.7	-2.6	-8.8	-10.8	-6.8	8.7	-0.8
STD ERROR	2.5	2.7	1.9	2.3	1.8	1.3	3.9	3.8	8.1	5.1	2.6	2.2	2.8	0.8	2.1	5.7	8.2	3.8	1.7	1.1	9.7
BAL EFFECT	2.8	-6.3	3.0	-0.1	-1.2	1.1	3.1	-7.1	5.1	-8.0	1.7	1.7	-1.0	3.9	-10.6	0.0	-1.9	-7.8	-6.1	7.2	0.6
STD ERROR	2.1	3.8	1.9	2.5	1.3	1.3	3.8	3.8	3.9	5.0	2.6	2.0	2.5	0.8	2.7	6.6	5.9	3.6	1.8	1.8	3.8
ITEM: 0762 NATL % 22.4 (Test for this exercise was not released)																					
UNADJ EFFECT	-3.7	2.8	3.4	-2.0	1.0	-0.2	10.9	-4.1	-2.8	5.2	-4.1	2.8	3.2	1.1	-6.8	-1.0	8.7	8.7	8.6	8.7	-12.1
STD ERROR	3.2	3.5	2.8	3.8	2.3	2.0	8.8	6.6	8.1	5.6	1.7	1.5	3.1	0.7	1.8	6.0	10.0	6.2	2.9	2.1	6.7
BAL EFFECT	-1.2	2.7	2.3	-1.2	0.8	-0.1	9.7	-1.8	-1.9	7.2	-8.5	2.1	1.6	1.0	-7.9	-8.1	-8.8	-1.1	8.2	1.2	-8.5
STD ERROR	3.0	3.8	2.8	8.3	2.3	2.0	8.8	6.5	8.7	5.8	8.0	3.5	3.1	1.0	5.1	7.1	15.1	6.5	2.9	2.1	8.8
ITEM: 0763 NATL % 16.6 (Test for this exercise was not released)																					
UNADJ EFFECT	2.7	-1.8	1.1	-3.1	4.1	-3.1	-1.0	-11.6	0.1	-8.5	-1.1	2.6	8.1	1.8	-8.3	-7.2	-8.6	-7.8	-0.5	8.8	-15.6
STD ERROR	3.8	2.9	3.8	3.0	2.0	1.8	5.2	3.7	8.7	5.2	3.6	8.1	8.3	0.7	3.1	5.6	8.2	8.8	2.2	1.9	7.0
BAL EFFECT	1.6	-0.7	0.9	-2.3	3.5	-3.1	-0.8	-6.2	-0.9	-8.5	-2.9	2.2	8.6	0.8	-3.8	-3.8	-5.8	-8.8	-0.5	8.2	-13.0
STD ERROR	3.6	3.7	3.8	3.3	1.9	1.7	5.0	8.1	8.9	5.6	8.0	8.0	8.6	0.8	8.0	6.0	8.8	5.2	2.8	1.9	7.8
ITEM: 0764 NATL % 13.0 (Test for this exercise was not released)																					
UNADJ EFFECT	2.3	-5.6	-1.5	8.3	-1.9	1.6	-8.2	-10.1	6.5	-3.7	3.1	0.7	-0.1	1.5	-8.7	-8.3	-6.9	-8.9	8.9	2.8	-8.5
STD ERROR	2.8	2.5	3.0	3.5	1.5	1.6	3.7	3.5	6.6	8.1	1.6	2.7	1.8	0.6	2.8	6.3	8.8	3.1	2.8	2.0	3.5
BAL EFFECT	1.3	-1.7	-1.9	8.2	-1.8	1.6	-6.6	-6.7	3.8	-1.3	1.3	1.0	0.6	0.8	-8.1	-2.6	-6.8	-8.8	1.9	1.9	-3.5
STD ERROR	3.0	2.5	2.9	2.9	1.8	3.6	3.6	3.0	5.9	8.0	3.8	2.8	3.6	0.6	2.0	5.9	3.1	3.0	2.0	1.9	3.8

EXPR: 0765 NATL % 12.8 (Test for this exercise was not released)																					
UNADJ EFFECT	2.5	-6.1	-1.8	8.5	-1.7	1.8	-9.0	-10.0	6.7	-3.5	3.3	0.9	-0.9	1.5	-8.5	-9.1	-6.7	-8.8	0.6	3.0	-8.8
STD ERROR	2.8	2.8	3.0	3.5	1.5	1.6	3.2	2.5	8.6	8.1	1.6	2.7	1.8	0.8	2.8	6.3	8.8	3.1	2.8	2.0	1.5
BAL EFFECT	1.5	-8.5	-1.7	8.8	-1.6	1.8	-6.3	-6.8	1.8	-3.2	1.5	1.3	0.1	0.7	-1.8	-2.6	-8.5	-5.5	0.7	1.6	-2.3
STD ERROR	3.0	2.3	2.9	2.9	1.8	1.6	1.5	1.0	5.9	8.0	1.8	2.8	1.6	0.6	2.6	5.9	3.3	1.0	2.0	1.9	3.8
EXPR: 0766 NATL % 11.2 (Test for this exercise was not released)																					
UNADJ EFFECT	1.8	-6.7	3.3	-2.7	2.0	-1.9	-8.8	-9.5	9.6	-8.0	3.5	1.5	-3.7	1.6	-8.0	-8.7	-5.2	-10.5	1.0	3.8	-11.2
STD ERROR	3.0	2.3	2.8	2.8	1.7	1.5	8.8	1.8	5.3	3.0	2.8	3.1	2.7	0.5	2.3	8.5	8.3	1.6	2.8	1.6	1.6
BAL EFFECT	-2.2	-8.5	3.8	-2.7	2.6	-2.3	-8.3	-7.0	9.7	-8.5	1.5	1.5	-2.8	0.8	-2.0	-1.3	-2.6	-8.8	1.8	1.9	-7.9
STD ERROR	3.0	2.6	2.7	2.7	1.8	1.5	8.7	2.6	5.2	3.1	2.9	2.9	2.9	0.5	2.8	8.8	5.8	1.8	2.3	1.6	1.9

OBJECTIVE: Understand the investigative nature of science.

EXPR: 0767 NATL % 89.0 (Test for this exercise was not released)																					
UNADJ EFFECT	-0.5	-8.0	8.9	-8.3	-1.1	1.2	3.1	-9.5	-3.5	-1.0	1.2	-0.3	8.3	1.8	-8.0	-10.1	-1.9	-2.7	-0.9	2.5	-8.9
STD ERROR	1.8	3.6	1.1	1.6	0.8	0.8	1.8	1.8	2.3	1.9	1.9	1.8	1.8	0.8	1.8	3.8	8.2	2.8	1.0	0.8	2.8
BAL EFFECT	0.8	-1.9	8.1	-3.7	-1.1	1.2	3.3	-8.1	-3.7	-2.3	0.3	-0.3	8.8	0.5	-0.7	-6.6	-3.7	-2.6	-3.8	2.0	-1.0
STD ERROR	1.6	3.7	1.2	1.8	0.8	0.8	1.5	3.6	2.1	2.0	1.7	3.6	3.3	0.5	1.9	3.7	8.2	2.3	3.0	0.8	2.8
EXPR: 0768 NATL % 67.6 (Test for this exercise was not released)																					
UNADJ EFFECT	0.8	-7.1	5.8	-1.3	-1.8	2.9	-6.3	-20.1	9.2	-3.1	1.5	-0.9	8.1	8.5	-21.7	-15.1	-20.6	-15.3	-1.6	9.0	-13.2
STD ERROR	2.9	2.6	2.1	2.3	1.2	1.8	3.9	1.8	3.3	8.9	3.7	2.3	2.2	0.8	2.9	3.8	5.2	3.2	1.8	3.2	5.5
BAL EFFECT	-0.2	-3.7	5.1	-2.6	-2.1	2.8	1.1	-7.0	5.7	-0.2	-1.3	-3.2	3.2	3.2	-16.5	-8.5	-16.8	-13.0	-1.8	3.5	-10.5
STD ERROR	1.9	2.2	1.6	2.3	1.1	1.2	2.9	3.9	3.8	8.8	3.1	1.8	2.0	0.8	3.2	8.8	5.1	3.8	1.6	3.3	8.5
EXPR: 0769 NATL % 66.6 (Test for this exercise was not released)																					
UNADJ EFFECT	-2.9	-1.0	0.9	2.9	-2.2	1.9	0.5	-6.8	-5.9	8.1	-1.8	1.9	2.3	0.3	-2.2	0.2	10.3	-1.1	-1.3	1.7	-8.1
STD ERROR	2.3	2.8	2.2	2.8	1.3	1.3	3.7	8.2	5.8	3.7	2.5	2.1	2.3	0.5	3.1	8.0	8.2	3.0	2.2	3.2	2.9
BAL EFFECT	-2.8	-1.8	0.6	3.6	-2.1	1.9	-0.8	-5.8	-8.6	8.6	-1.2	2.0	1.5	0.2	-0.5	-1.3	13.6	-1.8	-1.3	3.7	-7.3
STD ERROR	2.2	2.5	2.2	2.8	1.2	1.1	8.1	8.5	5.9	3.9	2.8	2.0	2.5	0.6	3.8	3.9	8.5	2.9	2.2	3.3	3.0
EXPR: 0770 NATL % 85.9 (Test for this exercise was not released)																					
UNADJ EFFECT	1.7	-8.3	8.9	-2.7	-1.7	1.6	-0.8	-7.2	2.8	-3.5	3.8	-2.8	3.2	3.8	-16.0	-13.6	-10.5	-3.3	0.2	8.2	-11.5
STD ERROR	2.6	2.8	2.9	2.7	1.5	1.8	6.8	3.8	3.8	8.6	3.0	2.8	3.0	0.7	2.9	8.5	5.3	3.8	3.7	3.9	3.8
BAL EFFECT	1.3	-2.6	2.8	-3.8	-3.7	1.6	0.8	3.8	0.8	-3.6	0.9	-3.9	3.2	2.8	-10.2	-8.9	-11.3	-3.7	-0.8	3.7	-8.6
STD ERROR	2.8	3.0	2.6	2.7	1.5	1.8	5.8	3.9	3.8	8.0	3.0	2.7	3.2	0.7	2.8	5.0	5.3	3.3	3.8	3.8	3.5

OBJECTIVE: Have attitudes about and appreciation of scientists, science, and the consequences of science that stem from adequate understandings.

EXPR: 0771 NATL % 93.6 (Test for this exercise was not released)																					
UNADJ EFFECT	-0.5	-2.3	1.5	1.0	-0.8	1.1	-2.1	-5.0	8.9	-3.2	-0.0	3.8	-0.9	1.8	-6.6	-2.1	-0.1	-3.3	-0.0	1.9	-8.3
STD ERROR	1.0	1.8	1.0	1.0	0.6	0.5	2.0	1.9	1.1	2.7	1.3	0.9	1.3	0.8	1.3	2.1	2.3	2.3	0.8	0.7	2.9
BAL EFFECT	-1.1	-0.7	1.3	0.5	-1.2	1.2	-1.6	-1.0	3.8	-2.3	-0.8	2.8	-1.3	1.1	-5.2	-1.6	1.2	-2.3	0.3	1.2	-3.8
STD ERROR	0.8	1.2	1.0	0.9	0.5	0.5	1.8	2.1	1.8	2.6	1.2	0.9	1.2	0.8	1.5	2.2	2.6	2.3	0.8	0.7	2.5

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	RETIRED RURAL	INNER CITY	RETIRED APP.STD	INNER PRINCP	URBAN PRINCP	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST GRADUA
ITEM: 0772 NATL % 92.0 (Test for this exercise was not released)																					
UNADJ PERCT	-1.4	-0.1	1.2	0.3	2.2	-1.9	-2.2	0.1	-1.7	-3.7	2.1	1.0	-0.3	0.6	-2.0	-1.6	2.6	1.1	-0.9	-0.2	1.6
STD ERROR	1.1	1.2	1.1	1.3	0.6	0.6	1.0	2.1	2.0	2.0	1.2	1.1	1.3	0.0	1.6	3.2	2.1	1.0	0.9	0.6	1.6
ADJ PERCT	-2.1	0.0	1.1	0.7	2.2	-1.9	-2.6	2.3	-1.8	-6.1	2.2	0.9	-0.7	0.7	-1.0	-2.1	1.1	1.1	-1.0	-0.5	2.0
STD ERROR	1.1	1.2	1.0	1.0	0.7	0.6	1.9	2.2	2.1	2.0	1.1	1.1	1.0	0.0	1.0	3.1	2.1	1.0	0.9	0.6	1.6
ITEM: 0773 NATL % 37.0 (Test for this exercise was not released)																					
UNADJ PERCT	4.7	-12.0	5.4	-1.9	3.5	-3.7	-3.6	-11.2	8.0	-1.1	6.1	0.2	-2.6	3.9	-18.6	-18.6	-23.7	-11.0	-3.7	10.5	-11.6
STD ERROR	2.7	2.4	2.2	2.3	1.5	1.5	4.5	4.9	4.5	3.4	3.0	3.0	2.5	0.0	2.4	3.8	3.6	3.2	1.0	1.4	2.7
ADJ PERCT	4.3	-7.9	3.6	-3.3	3.8	-3.5	1.1	-2.9	3.3	1.0	3.2	-1.8	-2.0	2.6	-9.7	-9.2	-18.9	-7.3	-4.7	8.9	-7.5
STD ERROR	2.8	2.5	2.1	2.3	1.4	1.4	2.3	3.7	3.6	3.4	2.9	2.8	2.6	0.0	2.1	3.7	3.8	3.3	3.7	3.5	3.0
ITEM: 0774 NATL % 19.0 (Test for this exercise was not released)																					
UNADJ PERCT	1.1	4.3	-3.0	-1.2	6.4	-6.9	-1.6	-1.9	-2.8	-2.3	2.0	-2.1	4.4	0.0	0.1	-0.2	4.3	-3.9	1.0	-0.0	-0.5
STD ERROR	1.7	2.1	1.8	1.7	1.1	1.2	3.5	3.2	2.8	3.3	1.9	1.7	2.1	0.5	3.1	4.0	5.7	3.0	1.0	1.0	4.2
ADJ PERCT	0.0	4.1	-2.0	-0.9	4.4	-6.0	-1.3	-1.1	-1.5	-3.1	2.1	-2.0	1.9	-0.3	1.2	0.0	1.6	-0.3	1.0	0.5	-5.6
STD ERROR	1.0	2.1	1.0	1.6	1.1	1.2	3.3	3.0	2.0	3.0	1.9	1.0	2.2	0.5	3.1	3.9	5.0	3.3	1.0	1.3	4.2
ITEM: 0775 NATL % 5.1 (Test for this exercise was not released)																					
UNADJ PERCT	1.0	-0.6	0.0	-7.0	2.1	-2.1	-2.5	-0.1	1.2	2.0	0.9	0.0	-2.3	0.0	0.1	-1.1	-1.9	-0.9	-1.1	0.0	1.9
STD ERROR	0.9	1.0	1.1	0.8	0.6	0.5	1.2	2.7	2.2	1.6	1.0	1.1	0.8	0.3	1.5	1.7	1.5	1.6	0.9	0.7	1.0
ADJ PERCT	1.9	0.2	0.9	-2.0	2.2	-2.0	-1.7	-0.0	1.7	2.6	0.5	0.6	-2.7	-0.0	-0.1	0.0	-2.5	-0.3	-1.1	0.6	1.5
STD ERROR	1.0	1.0	1.1	0.9	0.6	0.6	1.1	2.0	2.1	1.7	0.9	1.1	0.9	0.1	1.0	1.0	1.6	1.6	0.0	0.7	1.7

AGE 17

OBJECTIVE: Know fundamental facts and principles of science.

ITEM: 0101 NATL % 97.4 Identify groups of animals and plants which would be found in a forest community.

UNADJ PERCT	-0.6	-2.1	1.3	0.9	0.2	-0.2	1.2	-3.6	1.7	-1.7	0.9	1.2	-1.0	0.0	-0.0	0.0	-0.0	-1.3	-0.0	1.5	-97.6
STD ERROR	1.1	1.7	0.6	0.8	0.6	0.6	0.8	2.2	0.8	1.0	0.8	0.8	1.0	0.0	2.1	1.0	1.5	2.1	0.0	0.6	0.6
ADJ PERCT	-0.8	-1.1	1.1	0.8	0.1	-0.0	1.3	-0.7	0.5	-1.0	0.2	1.0	-0.6	0.6	-1.9	0.6	-0.0	-2.0	0.0	1.0	-97.2
STD ERROR	1.0	1.0	0.7	0.7	0.6	0.6	1.0	2.6	0.6	1.6	0.7	1.0	1.0	0.0	2.6	1.1	1.0	2.1	0.0	0.6	1.0

ITEM: 0102 NATL % 91.7 Choose from five alternatives, the best balanced meal.

UNADJ PERCT	-1.0	0.2	1.0	2.0	-1.0	1.7	-16.2	-5.5	6.0	-1.2	0.0	1.1	-1.4	1.1	-0.9	-1.0	-6.1	-7.3	2.0	3.7	-21.6
STD ERROR	2.7	2.1	2.1	1.5	1.2	1.1	10.7	5.0	1.3	2.0	1.1	2.0	2.0	0.7	0.2	0.0	0.2	3.7	1.0	1.3	0.0
ADJ PERCT	-0.2	0.1	0.3	0.0	-2.0	1.9	-15.7	-0.2	5.9	-0.6	0.3	0.1	-1.9	1.0	-0.2	2.1	-5.2	-5.0	2.0	2.7	-21.6
STD ERROR	2.6	2.7	1.0	0.0	1.0	1.0	10.3	5.4	1.7	2.2	1.1	1.6	2.3	0.7	0.6	0.7	0.0	3.2	1.5	1.0	7.6

EXPR: R303 NATL % 91.8 Nearly all gasoline at the present time comes from petroleum.

UNADJ EFFECT	-5.2	2.5	2.8	0.5	3.5	-1.8	2.1	-9.5	6.3	-0.6	-8.8	0.8	8.8	2.1	-8.5	-17.2	-2.9	-7.8	3.6	1.6	-0.9
STD ERROR	3.0	1.9	1.5	2.5	1.5	1.8	2.8	8.9	1.6	3.0	5.8	3.2	1.7	1.0	3.6	13.2	8.9	8.6	1.6	1.8	7.3
BAL EFFECT	-5.6	1.0	3.3	-0.1	3.7	-1.5	0.8	-7.1	6.6	0.9	-6.3	-0.7	3.5	1.9	-6.0	-16.1	-2.6	-6.8	3.4	1.1	-0.7
STD ERROR	2.5	1.9	1.7	2.8	1.3	1.1	2.5	8.3	2.2	2.5	8.3	3.0	1.5	1.0	3.5	11.9	8.0	8.2	1.4	1.6	5.4

EXPR: R304 NATL % 88.1 Given five animals found as fossils, select dinosaurs as the only one not seen alive by man.

UNADJ EFFECT	1.6	-1.3	-2.0	2.3	2.0	-1.8	-11.8	-16.0	3.2	7.2	3.8	3.1	-1.0	2.0	-11.8	-7.0	-9.2	-7.1	2.1	8.8	-2.7
STD ERROR	2.6	2.[illegible]	2.3	1.8	1.3	1.1	7.6	5.0	3.3	3.8	2.1	2.9	2.7	0.6	8.0	5.3	6.0	3.5	1.6	1.1	6.7
BAL EFFECT	0.6	1.5	-1.3	-0.3	1.8	-1.6	-9.7	-11.0	1.0	7.9	1.8	2.8	-0.6	1.1	-8.3	-2.8	-7.7	-5.0	2.0	3.1	-2.8
STD ERROR	[illegible]	[illegible]	[illegible]	1.7	1.2	1.0	7.8	5.5	1.1	2.0	2.2	2.7	2.7	0.7	8.2	6.5	5.7	3.2	1.6	1.1	6.0

EXPR: R305 NATL % 76.4 The movement and characteristics of air masses are important in predicting weather.

UNADJ EFFECT	0.2	-9.3	7.1	-0.9	2.8	-0.5	-2.9	-15.1	10.3	-8.1	0.8	4.8	-1.2	5.5	-10.5	-12.1	-10.5	-10.2	0.0	7.2	-19.1
STD ERROR	3.1	2.1	2.0	3.1	1.4	1.2	7.9	5.8	2.3	3.5	3.6	2.7	3.1	1.1	1.9	10.2	5.3	3.9	1.9	1.6	12.1
BAL EFFECT	-0.9	-5.2	5.9	-2.3	-0.2	0.2	2.4	-6.1	5.1	-6.2	-1.1	2.5	0.6	4.6	-28.9	-10.8	-8.0	-7.1	-0.4	5.8	-19.1
STD ERROR	2.5	2.5	2.0	2.9	1.3	1.0	5.9	4.6	2.5	3.2	2.7	2.6	3.1	1.1	4.8	10.4	4.5	4.0	1.8	1.5	10.1

EXPR: R306 NATL % 66.9 Recognize that outlawing the use of insecticides does not help to increase the total amount of food available to the human race.

UNADJ EFFECT	1.8	-12.1	3.4	1.9	4.1	-3.5	-5.3	-31.3	5.9	0.9	4.0	0.6	2.4	3.5	-28.8	-9.7	-11.4	-16.0	0.6	9.8	-23.5
STD ERROR	3.8	4.3	3.0	2.7	1.7	1.5	9.1	5.9	5.1	4.1	4.9	2.9	3.1	0.9	4.2	9.1	8.9	3.6	2.2	2.0	9.4
BAL EFFECT	1.9	-8.3	2.2	2.2	2.8	-2.7	1.4	-23.0	1.0	0.6	2.5	-0.9	3.9	2.0	-13.5	-7.3	-8.3	-12.9	-0.2	8.3	-22.9
STD ERROR	3.3	4.5	2.8	2.6	1.4	1.3	8.4	6.8	4.4	4.3	4.6	2.8	2.8	0.7	4.4	8.0	8.5	3.6	2.1	1.9	8.9

EXPR: R307 NATL % 68.0 Galaxies contain many stars.

UNADJ EFFECT	6.6	-4.9	-1.7	-0.6	1.9	-2.1	-3.3	-5.2	-2.3	6.9	5.4	-2.7	-2.0	1.5	-10.9	0.9	-11.5	-10.1	3.0	4.1	5.5
STD ERROR	2.5	2.6	2.6	2.3	1.5	1.3	7.1	4.7	3.7	3.0	2.6	2.8	2.8	0.8	4.1	8.8	6.3	3.8	1.8	1.6	7.4
BAL EFFECT	6.2	-0.3	-2.8	-2.6	2.2	-1.9	-1.6	-0.2	-5.4	7.5	3.1	-4.8	0.5	1.3	-8.8	0.2	-10.5	-9.6	2.6	1.8	6.7
STD ERROR	2.3	2.8	2.6	2.3	1.4	1.2	6.8	5.3	3.7	3.0	2.4	2.7	2.7	0.8	4.6	7.1	5.4	3.8	1.8	1.7	8.8

EXPR: R308 NATL % 65.3 An electric current in a copper wire involves the movement of electrons.

UNADJ EFFECT	-3.3	0.4	4.2	-2.3	5.6	-5.6	0.2	-2.6	6.0	-3.2	0.2	0.4	-0.1	1.6	-4.5	-10.9	-10.7	-8.5	2.9	4.9	-19.5
STD ERROR	2.5	2.6	2.5	2.2	1.6	1.5	6.2	4.4	3.5	4.8	3.4	2.8	3.4	0.8	4.1	6.4	6.4	3.3	1.8	1.7	8.8
BAL EFFECT	-3.7	1.9	4.1	-3.1	5.7	-5.6	0.8	-0.3	4.4	-3.2	-1.3	0.8	+0.0	0.7	0.1	-9.2	-9.7	-4.4	2.1	5.1	-18.2
STD ERROR	2.6	2.8	2.5	2.4	1.5	1.5	6.0	5.0	3.7	4.7	3.3	3.0	3.4	0.9	4.6	6.3	6.9	3.3	1.8	1.7	9.7

EXPR: R309 NATL % 65.6 The idea of natural selection is usually associated with Darwin's theory of evolution.

UNADJ EFFECT	0.5	-14.3	3.1	4.4	4.9	-2.4	-10.4	-23.6	3.7	8.6	0.4	5.4	-3.2	6.7	-12.2	-22.3	-25.8	-20.0	6.0	11.0	-14.7
STD ERROR	3.5	3.3	3.3	2.6	1.9	1.5	6.9	5.8	5.6	3.6	5.2	3.7	3.7	1.1	3.7	9.3	5.5	3.6	2.3	2.1	9.5
BAL EFFECT	-0.6	-4.3	1.8	5.9	1.5	-1.2	-3.7	-10.9	-5.4	4.1	-2.4	2.3	2.1	5.4	-24.8	-20.7	-21.1	-16.8	5.5	9.1	-14.0
STD ERROR	3.0	3.5	2.9	2.4	1.6	1.3	5.3	5.3	5.1	2.5	4.5	3.3	3.4	1.1	4.0	8.9	5.5	3.5	2.0	1.9	10.7

EXPR: R310 NATL % 67.1 Conversion of limestone to marble or of soft coal to hard coal is brought about by heat and pressure below the earth's surface.

UNADJ EFFECT	4.5	-2.2	-0.9	-1.8	9.1	-6.7	-2.9	-8.5	3.1	-0.7	-2.0	2.5	3.1	3.4	-12.4	-28.4	-6.0	-8.8	-1.6	5.9	-0.7
STD ERROR	2.8	3.0	2.4	2.3	1.5	1.5	5.3	5.1	4.2	3.5	4.7	3.1	2.4	1.0	4.2	7.4	4.9	3.7	2.1	2.1	12.6
BAL EFFECT	5.4	-2.2	-1.4	-2.2	7.4	-6.4	-0.9	-1.4	-1.4	0.0	-1.8	-0.0	5.1	3.3	28.1	-28.6	-3.6	-7.2	-1.7	4.6	4.4
STD ERROR	2.5	2.8	2.2	2.1	1.5	1.4	4.9	4.8	4.0	3.3	4.3	2.7	2.5	1.1	4.3	8.7	5.0	3.6	2.0	1.9	12.3

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME APP SUB	INNER SUB FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXPR: R311 NATL % 62.5	The solid, liquid, and gaseous states of water differ in the average speed with which their molecules are moving.																				
UNADJ EFFECT	7.9	-6.7	-1.1	-1.8	3.4	-2.8	2.8	-19.2	8.9	-0.8	8.8	2.2	-4.5	2.4	-16.3	-8.8	1.5	-11.0	-1.9	6.8	-32.7
STD ERROR	3.3	4.3	3.1	2.4	1.6	1.6	5.7	6.9	5.5	3.6	4.0	4.1	3.1	0.8	4.3	7.7	7.8	4.0	2.3	1.8	10.2
BAL EFFECT	7.9	-4.7	-1.8	-2.7	2.4	-2.2	5.5	-14.4	0.8	-0.5	4.6	0.8	-2.8	1.4	-10.4	-2.2	3.4	-8.9	-2.7	6.0	-32.0
STD ERROR	3.0	4.2	3.2	2.7	1.5	1.4	6.0	7.5	5.0	3.5	4.1	3.9	3.1	0.8	5.7	7.4	7.2	3.4	2.3	1.8	10.7
EXPR: R312 NATL % 59.8	Certain wavelengths of light can be detected by the unaided human eye.																				
UNADJ EFFECT	3.9	-7.6	-2.4	5.8	6.5	-6.1	-12.4	-28.5	2.7	5.7	6.8	6.5	-7.2	3.2	-25.1	4.7	-18.1	-14.4	1.2	9.7	-22.1
STD ERROR	3.6	3.4	2.8	2.9	1.6	1.2	6.6	4.8	4.4	3.1	5.0	3.2	3.8	1.0	3.4	9.4	5.6	3.9	2.0	1.7	11.0
BAL EFFECT	1.3	0.1	-3.1	2.5	5.8	-4.6	-9.8	-18.3	-3.6	5.4	4.3	[illegible]	-3.1	2.3	-19.9	6.3	-13.9	-11.2	1.7	7.4	-23.7
STD ERROR	2.7	3.3	2.5	2.7	1.4	1.1	6.1	4.6	4.0	2.9	3.8	[illegible]	3.4	0.8	3.7	7.5	5.6	4.2	1.9	1.7	10.2
EXPR: R313 NATL % 56.8	Research into the nature of matter shows that it is made up of individual moving particles.																				
UNADJ EFFECT	2.4	-10.6	1.9	4.2	-1.2	1.1	-6.1	-12.1	9.9	3.5	0.5	-2.0	4.3	3.4	-13.3	-16.1	-9.7	-13.5	0.5	7.8	-0.9
STD ERROR	2.9	2.8	2.3	2.4	1.6	1.5	4.0	3.9	5.0	5.0	2.9	3.7	3.4	0.8	3.3	6.8	7.1	2.9	2.6	1.5	6.5
BAL EFFECT	1.8	-10.0	2.2	3.9	-2.5	2.2	-2.5	-7.1	6.0	3.3	-4.7	-1.9	6.6	2.3	-7.1	-16.9	-7.6	-11.8	1.0	6.3	-3.0
STD ERROR	3.0	2.7	2.2	2.6	1.6	1.5	6.6	4.2	5.1	4.9	3.0	3.5	2.9	0.8	3.5	6.0	6.8	2.8	2.6	1.7	6.2
EXPR: R314 NATL % 56.8	In terms of natural selection, choose the best explanation of why giraffes have long necks.																				
UNADJ EFFECT	3.6	-8.3	2.3	0.1	0.6	-0.2	-6.8	-16.8	7.1	4.5	1.3	3.3	-4.3	0.6	-4.7	-0.8	-13.9	-3.5	-2.8	6.4	-7.7
STD ERROR	3.6	4.4	2.8	2.9	1.6	1.5	8.7	7.9	5.6	3.7	4.1	3.2	3.4	0.7	5.3	7.9	8.7	4.5	2.0	2.1	10.0
BAL EFFECT	2.9	-6.6	3.2	-1.9	-0.3	0.2	-2.4	-16.2	5.4	3.7	1.1	2.9	-3.9	-0.3	1.5	2.6	-12.5	-1.5	-2.9	5.6	-7.8
STD ERROR	3.7	4.7	3.1	3.1	1.5	1.4	8.1	8.3	6.2	3.7	3.8	3.2	3.3	0.7	5.5	8.1	8.1	4.1	2.0	2.0	10.1
EXPR: R315 NATL % 56.1	The temperature of 2 pints of water at 80 degrees mixed with one pint of water at 100 degrees will be about 60 degrees.																				
UNADJ EFFECT	-0.2	-9.8	4.0	3.8	2.6	-1.3	-11.6	3.1	6.3	-7.4	-1.1	4.9	-1.8	2.9	-14.4	-15.6	-15.9	-3.6	2.2	2.2	6.6
STD ERROR	2.7	3.4	2.1	2.4	1.5	1.3	4.5	4.4	5.3	3.2	4.9	3.3	3.1	0.8	3.9	8.6	6.8	4.4	2.1	2.0	11.2
BAL EFFECT	-1.3	-7.1	3.7	3.8	1.4	-1.2	-8.4	9.1	3.9	-7.5	-2.9	3.6	-0.9	2.7	-12.0	-16.6	-13.6	-1.2	1.4	1.3	5.9
STD ERROR	2.4	3.1	2.2	2.4	1.5	1.3	5.6	3.5	5.2	3.2	4.3	3.2	2.7	0.8	3.5	8.3	6.1	3.8	1.9	1.7	9.4
EXPR: R316 NATL % 53.9	Adrenaline acts as a stimulant to the heart.																				
UNADJ EFFECT	4.7	-10.7	-2.3	7.9	5.0	-4.5	-11.1	-17.5	20.0	3.4	3.1	3.3	-7.4	4.9	-30.5	-14.9	-18.4	-18.5	1.8	13.0	-32.0
STD ERROR	3.6	4.3	3.3	2.9	1.8	1.6	6.4	6.2	6.0	3.9	4.1	4.1	3.6	1.0	4.0	7.1	6.5	3.6	2.4	1.9	10.0
BAL EFFECT	2.5	-4.1	-2.0	3.7	3.9	-3.6	-5.8	-3.6	13.0	4.0	-2.2	1.8	-5.3	3.7	-24.1	-8.7	-15.7	-13.4	2.4	4.7	-35.0
STD ERROR	3.0	3.5	2.8	2.4	1.6	1.4	6.0	6.5	4.6	3.2	3.5	3.6	3.0	0.9	4.8	6.0	6.1	3.1	2.2	1.8	9.4
EXPR: R317 NATL % 55.8	Mercury can be used in a glass thermometer because when heated it expands more than the glass.																				
UNADJ EFFECT	2.4	-9.1	0.3	5.2	12.4	-11.0	-3.5	-14.7	1.6	6.0	0.4	3.6	-3.0	1.0	-8.6	2.5	-9.8	-13.4	-0.5	7.1	5.6
STD ERROR	2.9	3.6	2.6	2.5	1.8	1.2	5.8	6.8	4.5	4.6	4.3	3.7	2.8	0.8	3.2	7.4	6.8	3.7	2.2	1.9	14.8
BAL EFFECT	3.3	-7.4	0.6	2.2	12.8	-10.4	0.6	-9.9	-4.0	3.9	-1.7	1.8	2.1	0.2	-1.3	[illegible]	-7.1	-10.7	-0.9	5.8	5.4
STD ERROR	2.5	3.4	2.7	2.4	1.6	1.2	5.5	6.8	4.3	4.8	3.4	3.5	2.8	0.7	2.7	7.1	6.7	3.6	2.1	1.9	13.1

EXPR: R318 NATL % 51.6 "Atoms are rearranged into new molecules" most nearly describes what occurs during most chemical changes.

UNADJ EFFECT	7.0	-8.1	-1.9	8.2	1.8	-1.4	-7.0	-16.0	18.8	-0.0	-0.6	6.7	-8.9	1.4	-13.6	2.4	-21.6	-17.4	3.8	10.5	-7.3
STD ERROR	1.2	4.1	1.0	2.5	2.3	2.1	5.9	4.9	7.9	3.8	5.6	2.9	3.2	0.9	4.9	7.7	5.6	3.4	2.9	2.0	8.7
BAL EFFECT	8.7	-3.8	-2.5	1.2	2.1	-1.9	-3.0	-11.1	14.7	-0.1	-1.7	5.0	-7.3	0.1	-6.0	8.1	-20.0	-13.2	4.6	4.0	-9.6
STD ERROR	2.2	1.7	2.3	2.0	1.6	1.4	5.9	5.2	5.1	3.3	4.0	2.7	1.0	0.8	5.3	5.3	5.2	3.3	2.5	1.6	6.8

EXPR: R319 NATL % 54.6 The longer a rock falls, the greater is its speed.

UNADJ EFFECT	-3.2	1.1	0.2	1.9	-2.4	2.1	-3.1	-0.0	-2.8	-3.3	2.9	0.6	0.7	0.7	-1.9	-5.8	11.8	-0.5	1.8	-3.6	4.2
STD ERROR	2.9	1.8	2.9	2.3	1.5	1.3	6.7	3.8	4.9	3.8	4.0	3.5	2.8	0.8	3.6	7.4	5.6	4.0	2.3	2.0	10.7
BAL EFFECT	-4.1	0.6	0.2	3.1	-2.3	2.0	-5.8	1.5	-1.5	-2.4	3.2	0.2	0.0	1.1	-3.3	-7.4	11.9	0.2	1.7	-4.2	3.5
STD ERROR	3.0	1.6	2.6	2.3	1.5	1.3	5.8	5.1	5.1	3.9	3.7	2.9	2.8	0.9	4.5	6.9	5.6	4.0	2.3	1.9	10.6

EXPR: R320 NATL % 51.1 A boat travelling at 5 miles per hour down a river which flows at 5 miles per hour will take 60 minutes to go 10 miles downstream.

UNADJ EFFECT	3.3	-12.7	1.5	5.3	14.0	-11.0	-21.3	-17.3	16.9	-8.5	3.9	1.1	2.2	2.7	-23.2	1.1	-24.6	-13.5	0.6	11.1	-12.5
STD ERROR	3.6	3.7	2.8	3.1	1.9	1.6	7.8	6.5	5.8	4.1	4.4	3.8	3.2	0.9	4.0	9.6	6.6	3.5	2.8	1.6	9.0
BAL EFFECT	1.2	-6.1	0.6	3.1	12.4	-11.8	-13.8	-10.8	12.3	-7.7	2.0	-0.5	3.4	1.1	-10.8	3.0	-19.4	-9.2	0.4	8.7	-20.8
STD ERROR	2.3	3.3	2.6	2.5	1.6	1.4	7.4	4.0	4.0	3.2	3.4	3.3	2.7	0.8	4.7	7.8	5.5	2.9	2.1	1.5	8.1

EXPR: R321 NATL % 49.4 A body covering of feathers distinguishes birds from all other animals.

UNADJ EFFECT	-2.4	-8.3	1.9	7.6	9.3	-7.2	-3.3	-10.8	2.9	1.6	1.4	-0.6	3.2	3.0	-15.7	-9.4	-18.8	-15.2	0.1	9.8	-14.3
STD ERROR	2.6	2.9	2.3	2.2	1.8	1.5	6.1	4.7	4.3	4.6	3.3	3.5	3.1	0.9	3.5	7.8	4.3	3.5	1.9	2.1	11.4
BAL EFFECT	-2.9	-5.6	1.4	6.8	7.3	-6.4	-3.1	-3.4	-4.1	0.5	0.8	-1.2	5.5	2.0	-9.2	-9.2	-11.7	-12.5	0.3	8.2	-12.7
STD ERROR	2.3	2.8	2.0	2.0	1.7	1.4	5.1	4.5	3.9	4.2	2.7	2.8	2.7	0.9	3.7	8.8	5.2	3.4	1.8	2.0	12.6

EXPR: R322 NATL % 48.4 If a light eater has a tendency to be overweight, it is most likely due to highly efficient utilization of food by the body.

UNADJ EFFECT	-2.6	3.1	-1.1	1.8	2.6	-2.2	5.6	6.8	-3.3	9.2	-4.5	-8.1	2.7	-1.4	10.2	2.4	6.1	-0.7	1.0	-1.4	-11.2
STD ERROR	3.6	3.1	2.8	2.8	1.7	1.6	6.0	5.8	5.8	3.1	3.5	3.8	3.3	0.7	5.3	6.5	6.9	3.3	2.3	1.9	10.1
BAL EFFECT	-1.8	2.5	-1.1	1.5	2.5	-2.5	5.2	6.0	-1.5	8.6	-3.5	-8.1	2.9	-1.1	8.4	0.2	5.8	-3.3	1.4	-0.8	-12.7
STD ERROR	3.6	3.4	2.6	2.6	1.6	1.6	5.7	5.9	5.9	3.2	3.5	3.6	3.3	0.7	5.5	6.0	6.3	3.1	2.4	1.8	10.0

EXPR: R323 NATL % 47.6 The purpose of a fuse in an electrical circuit is to prevent possible damage to the circuit.

UNADJ EFFECT	-1.9	-2.2	-0.2	8.6	18.6	-15.3	3.3	-10.8	2.1	-6.8	-2.2	8.4	3.2	3.0	-18.9	-16.1	-8.1	-11.9	3.1	8.6	-7.1
STD ERROR	2.7	3.5	2.4	2.9	1.8	1.8	6.0	5.1	4.6	4.1	4.1	2.9	2.9	0.9	4.2	5.9	6.8	3.8	2.5	1.8	15.9
BAL EFFECT	-1.9	-0.9	-0.1	3.4	17.5	-15.1	4.7	-4.7	-1.4	-5.7	-2.6	3.0	3.8	2.1	-7.9	-16.6	-8.2	-9.8	1.1	4.6	-1.1
STD ERROR	2.3	3.0	2.4	2.4	1.8	1.8	5.6	4.5	4.2	3.8	3.1	2.7	2.5	0.9	4.4	6.0	6.6	3.5	2.3	1.7	17.0

EXPR: R324 NATL % 45.4 C above middle C has a higher frequency and shorter wavelength than middle C.

UNADJ EFFECT	9.7	-12.6	-7.8	2.1	2.6	-2.3	-8.2	-5.9	18.0	-2.8	-1.7	-0.9	-0.2	3.1	-21.5	-7.8	-8.4	-11.3	0.1	7.1	-11.6
STD ERROR	3.9	3.2	2.9	2.8	2.1	2.0	7.0	5.8	8.7	3.7	4.7	4.1	3.9	0.7	3.8	6.7	7.9	3.7	2.7	2.2	6.2
BAL EFFECT	8.5	-10.8	-1.3	1.2	0.8	-0.7	-4.4	1.0	13.4	-2.9	-4.4	-2.4	2.8	2.5	-16.7	-6.9	-4.4	-8.5	0.9	4.6	-15.9
STD ERROR	3.0	3.1	2.7	2.3	1.6	1.5	6.7	5.7	6.8	3.1	4.3	4.3	3.2	0.7	4.5	5.7	6.5	3.2	2.4	1.7	7.3

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME APP SUB	INNER SUB	URBAN FRINGE	MEDIUM FRINGE	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: B125 NATL % 81.4 The function of the placenta in the pregnant human female is to carry nourishment to the baby.																					
UNADJ EFFECT	3.8	-5.5	-8.8	1.0	-8.6	8.2	-12.0	1.7	5.1	1.9	1.0	8.4	-5.9	0.8	-2.9	-6.8	-8.5	-10.7	-0.1	5.1	13.7
STD ERROR	1.0	3.3	1.1	2.6	1.5	1.5	3.9	6.0	4.5	3.8	8.7	5.1	2.8	0.7	8.7	6.1	6.7	3.1	3.1	1.6	12.2
BAL EFFECT	1.0	-8.8	0.8	-0.2	-8.5	8.8	-9.6	8.1	2.9	3.8	-0.5	2.9	-3.3	0.6	-2.1	-5.8	-3.6	-9.6	-0.8	8.5	16.6
STD ERROR	2.9	3.7	3.0	2.5	1.8	1.8	8.2	5.9	8.6	3.5	8.9	5.1	3.0	0.7	5.8	5.0	8.1	3.1	2.1	1.5	12.7
EXER: B126 NATL % 35.0 Adding table salt to water lowers its freezing point.																					
UNADJ EFFECT	9.1	-7.7	-3.6	1.9	10.8	-9.5	-2.0	-17.6	23.3	0.1	2.3	1.9	-2.8	8.1	-18.0	-11.1	-19.7	-12.2	0.2	10.7	-22.5
STD ERROR	8.0	2.6	2.8	2.7	1.8	1.1	5.8	3.0	7.9	8.5	3.8	3.8	2.8	0.8	3.0	8.3	3.6	3.2	2.3	1.8	8.8
BAL EFFECT	8.2	-8.1	-8.5	0.8	8.7	-8.6	5.2	-10.3	16.4	-3.6	-1.8	0.2	0.1	2.2	-8.7	-11.0	-18.8	-8.0	0.0	8.7	-23.5
STD ERROR	1.3	2.3	1.9	2.8	1.8	1.3	5.5	3.2	6.1	8.3	2.9	3.0	2.5	0.8	3.8	8.2	8.3	2.7	2.0	1.7	5.6
EXER: B127 NATL % 33.8 Sound from a radio or television receiver is carried to a person's ears by air molecules.																					
UNADJ EFFECT	7.9	-2.9	-3.1	-8.2	6.8	-5.1	-9.8	-5.6	2.7	3.5	3.7	-5.9	8.1	1.9	-8.6	-10.6	-13.9	8.2	0.3	0.5	-0.3
STD ERROR	3.7	3.3	2.9	2.6	2.0	1.7	8.6	8.0	5.7	8.3	3.9	3.8	3.8	0.8	3.9	5.8	3.5	8.8	1.8	1.9	9.1
BAL EFFECT	7.3	-1.1	-1.7	-5.1	6.6	-5.8	-8.3	-1.8	1.6	5.8	1.6	-8.1	5.6	1.8	-8.6	-8.9	-12.8	9.9	0.2	-0.3	8.3
STD ERROR	3.1	3.0	2.5	2.8	1.9	1.5	8.2	3.0	5.7	3.8	3.7	3.0	3.7	0.8	3.9	7.3	3.9	8.3	1.8	1.9	7.9
EXER: B128 NATL % 31.2 If the cells referred to were all in the same organism, the amount of DNA present would be identical in mature egg and sperm cells.																					
UNADJ EFFECT	-1.0	-7.1	0.2	7.5	-0.0	0.0	-6.8	-1.1	-2.6	8.9	1.8	8.7	-7.7	1.0	-7.2	-2.3	-21.8	-10.3	8.3	7.5	-19.0
STD ERROR	2.8	2.7	2.9	2.5	1.7	1.5	3.7	8.3	8.7	3.1	8.2	3.3	2.8	0.6	3.8	6.2	2.8	2.8	2.3	1.7	5.9
BAL EFFECT	-2.4	-2.7	0.6	8.7	-0.5	0.4	-8.8	3.8	-8.8	8.2	0.6	2.9	-6.8	0.6	-8.7	-0.2	-21.0	-8.7	3.7	7.1	-18.7
STD ERROR	2.6	2.3	2.6	2.6	1.5	1.4	3.0	8.8	8.6	2.9	3.3	3.2	2.8	0.6	8.0	5.7	2.8	2.6	2.3	1.6	6.5
EXER: B129 NATL % 30.3 If two light waves are travelling in a vacuum, the wave with the higher frequency has the shorter wavelength.																					
UNADJ EFFECT	3.1	-3.8	-1.6	1.6	6.1	-8.8	-3.6	-8.2	18.8	0.2	-1.7	-3.1	-1.7	2.8	-17.0	-9.9	-18.0	-18.1	-1.8	9.1	-10.8
STD ERROR	2.8	2.6	2.2	2.6	1.6	1.3	3.5	1.7	8.5	3.2	3.8	3.0	2.3	0.8	2.6	6.6	8.8	2.8	1.8	1.8	9.8
BAL EFFECT	0.9	1.1	-1.8	-0.3	5.2	-8.5	-1.8	0.2	9.7	1.3	-2.9	-8.8	-0.6	2.1	-11.2	-9.2	-12.8	-11.6	-1.3	7.8	-9.3
STD ERROR	2.5	2.3	2.2	2.7	1.5	1.2	3.0	1.0	8.8	3.2	3.1	3.2	2.3	0.8	2.8	7.2	5.1	2.8	1.7	1.8	7.9
EXER: B130 NATL % 29.0 The egg of the human female is released about 18 days after menstruation begins.																					
UNADJ EFFECT	3.2	-8.2	0.0	0.8	-8.6	8.1	2.8	-8.6	8.8	-2.6	1.5	6.2	-5.7	1.6	-6.2	-7.6	9.3	-9.5	-1.0	2.9	-15.7
STD ERROR	2.8	3.1	2.8	2.3	1.5	1.3	7.6	3.5	6.8	3.9	2.7	3.9	2.8	0.6	3.2	5.0	6.9	3.0	1.9	1.6	5.3
BAL EFFECT	2.1	-8.7	0.9	0.9	-5.2	8.6	3.4	-1.7	8.3	-1.8	-1.8	5.7	-8.8	1.1	-1.3	-8.1	9.2	-8.1	-0.7	2.2	-18.1
STD ERROR	2.6	3.8	2.2	2.2	1.8	1.2	6.7	8.1	6.0	3.7	2.9	3.6	2.5	0.8	8.0	5.0	6.5	3.1	1.8	1.6	5.5
EXER: B131 NATL % 23.2 For a given electric circuit, determine the resistance of a resistor.																					
UNADJ EFFECT	2.9	-5.1	1.5	-2.7	7.5	-8.6	-8.8	-7.1	-3.5	2.7	1.8	3.5	1.5	2.1	-8.9	-8.2	-13.8	-1.9	0.8	8.2	5.8
STD ERROR	2.1	2.0	2.8	1.8	1.2	0.9	3.9	1.8	3.8	3.0	3.1	2.8	2.9	0.5	2.3	3.2	3.2	2.8	1.8	1.2	6.8
BAL EFFECT	2.2	-3.8	1.2	-3.0	7.1	-6.2	-5.8	-8.0	-5.8	1.6	-0.8	3.5	2.8	1.2	-5.1	-8.3	-12.8	-2.5	0.8	3.6	9.2
STD ERROR	2.1	2.1	2.2	1.8	1.2	0.9	3.7	1.3	3.6	3.2	3.0	2.7	2.6	0.5	2.3	3.0	3.5	2.5	1.8	1.3	7.2

ITEM: R332 NATL % 20.8 The age of certain rocks and their fossils is determined by measuring the amounts of uranium and lead they contain.

UNADJ EFFECT	4.9	-4.5	-1.2	-0.4	5.6	-4.5	0.3	-5.5	11.1	2.8	-2.1	-1.6	-1.4	0.5	-0.6	-6.8	-8.4	-6.8	-2.8	6.2	-11.8
STD ERROR	2.3	2.3	1.9	2.3	1.3	1.1	4.3	3.8	3.7	4.0	2.5	2.4	2.4	0.5	2.8	4.1	3.3	2.5	1.7	1.4	5.1
BAL EFFECT	3.6	-3.7	0.3	-1.5	4.3	-4.6	2.3	-4.9	8.4	2.3	-3.1	-0.8	-2.0	-0.1	4.8	-6.9	-7.0	-5.3	-2.8	5.4	-12.8
STD ERROR	2.1	2.1	2.0	2.3	1.3	1.1	4.0	4.1	3.5	4.2	2.6	2.7	2.2	0.6	3.0	5.0	4.2	2.2	1.5	1.2	3.5

ITEM: R333 NATL % 16.3 Experiments where subatomic particles are shot at metal foils show that atomic nuclei are more dense than the rest of the atom.

UNADJ EFFECT	5.9	-2.8	-1.1	-2.0	2.4	-2.1	1.1	-4.3	8.2	-1.4	-2.6	-0.2	2.3	1.1	-5.6	-1.8	-7.9	-5.6	-0.4	4.4	3.3
STD ERROR	2.7	2.0	2.1	1.7	1.1	0.9	4.8	2.3	4.1	2.6	2.6	2.2	2.3	0.5	2.1	1.8	3.5	1.9	1.5	1.4	6.0
BAL EFFECT	6.5	-2.3	-1.2	-2.9	2.1	-1.9	5.1	-1.6	5.1	-1.8	-4.8	-1.1	3.6	0.6	-3.0	-0.6	-7.4	-5.3	-0.5	4.3	4.2
STD ERROR	2.5	2.0	1.9	1.8	1.1	1.0	4.9	2.3	7.1	2.3	2.7	2.1	2.2	0.4	2.1	3.5	3.2	1.8	1.4	1.2	5.4

ITEM: R334 NATL % 16.0 ATP is synthesized in the Mitochondria and then later broken down, resulting in a release of energy.

UNADJ EFFECT	-0.2	-1.6	-3.0	5.9	3.7	-2.9	-7.9	1.5	5.1	-0.8	1.4	-1.5	0.3	0.9	-3.5	-6.3	-5.7	-6.9	-0.2	4.0	-5.0
STD ERROR	1.6	2.0	1.5	1.9	1.3	1.1	2.2	3.6	2.9	2.4	2.3	2.1	2.2	0.5	2.8	3.3	2.9	1.9	1.3	1.0	6.7
BAL EFFECT	-1.2	0.6	-3.2	5.4	3.2	-2.7	-6.6	4.7	2.7	-1.3	1.6	-4.3	1.0	0.8	-2.6	-6.6	-5.8	-6.1	-0.2	[illegible]	-3.1
STD ERROR	1.5	1.7	1.6	1.8	1.2	1.0	2.5	3.9	3.2	2.3	2.1	2.0	2.1	0.5	2.9	3.8	3.2	1.9	1.4	1.1	5.6

ITEM: R335 NATL % 7.2 Uranium-lead dating has been used to obtain accurate estimates of the age of the oldest known rock strata.

UNADJ EFFECT	4.4	-2.8	-1.1	-0.4	0.1	-0.0	-1.0	0.4	0.4	2.2	0.7	-0.8	-1.0	0.0	-1.1	2.2	-2.8	-2.5	0.2	1.7	-1.3
STD ERROR	1.2	0.8	1.0	1.1	0.6	0.6	2.5	1.4	2.5	1.6	1.3	1.3	1.0	0.3	1.2	2.6	1.6	1.0	0.9	0.8	1.8
BAL EFFECT	4.6	-2.0	-1.4	-0.9	-0.1	0.1	0.8	1.3	-1.0	1.5	-0.2	-1.1	-0.3	-0.1	-0.3	2.2	-3.0	-2.4	0.3	1.7	-3.4
STD ERROR	1.2	0.8	0.9	1.2	0.6	0.6	2.4	1.5	2.3	1.6	1.3	1.2	0.9	0.3	1.2	2.5	1.5	1.1	0.9	0.8	1.9

ITEM: R336 NATL % 6.1 From a chemical equation, determine which elements have been oxidized.

UNADJ EFFECT	0.6	1.7	-1.7	0.1	2.8	-2.1	-2.0	-5.1	-0.0	2.1	-0.8	1.2	0.3	0.1	-0.8	-0.1	-3.4	-0.8	0.7	0.8	-4.9
STD ERROR	1.1	1.5	0.9	1.0	0.7	0.5	1.7	0.8	1.7	1.1	1.0	1.3	1.5	0.3	1.8	1.9	1.0	1.5	1.0	0.7	1.8
BAL EFFECT	0.7	2.1	-1.7	-0.5	2.5	-2.0	-2.3	-3.9	-0.5	2.0	-1.0	0.9	0.8	0.0	-0.8	0.8	-3.3	-0.6	0.9	0.6	-4.5
STD ERROR	1.1	1.5	0.9	1.0	0.7	0.6	1.8	1.0	1.8	1.2	1.0	1.2	1.4	0.3	1.9	2.0	1.1	1.4	1.0	0.7	1.5

ITEM: R337 NATL % 2.6 Metal cans for holding foodstuffs are chiefly made of iron.

UNADJ EFFECT	0.2	-0.6	0.9	-0.8	1.7	-1.5	-0.6	0.1	2.2	-1.7	0.8	0.4	-0.8	0.1	-0.4	-0.6	-1.7	-0.7	0.6	0.4	-2.6
STD ERROR	0.7	1.0	0.6	0.6	0.4	0.4	1.2	1.0	1.9	0.6	0.7	0.7	1.0	0.2	0.8	1.8	0.6	1.2	0.9	0.6	0.4
BAL EFFECT	0.0	-0.3	0.4	-0.8	1.6	-1.4	-0.4	-0.0	2.1	-1.9	0.7	0.5	-0.6	-0.1	0.4	0.0	-1.6	-0.4	0.5	0.3	-2.3
STD ERROR	0.7	1.0	0.6	0.6	0.4	0.3	1.3	1.0	1.8	0.6	0.8	0.8	0.9	0.2	1.0	1.9	0.7	1.2	0.8	0.5	0.8

ITEM: R338 NATL % 2.6 Using a compass, infer the direction of electron flow in a wire.

UNADJ EFFECT	0.3	0.8	-0.3	-0.6	1.5	-1.4	1.7	1.8	-0.1	-0.4	-0.1	0.6	-1.4	-0.0	0.4	-0.6	-2.1	0.2	-0.3	0.4	3.8
STD ERROR %	0.9	1.1	0.6	0.7	0.5	0.5	2.9	2.7	1.1	0.7	0.8	1.2	0.6	0.2	1.9	1.2	0.6	1.2	0.6	0.6	1.4
BAL EFFECT	-0.0	1.1	-0.2	-0.6	1.4	-1.3	2.1	1.7	-0.2	0.1	0.0	0.4	-1.5	0.1	-0.0	-0.8	-2.4	0.2	-0.3	0.5	4.1
STD ERROR	0.9	0.9	0.6	0.7	0.5	0.5	2.7	3.0	1.2	0.7	0.8	1.1	0.6	0.2	1.9	1.2	0.8	1.1	0.6	0.5	3.5

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER SUB	URBAN FRINGE	MEDIUM FRINGE	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
OBJECTIVE: Possess the abilities and skills needed to engage in the processes of science.																					
EXER: R339 NATL % 86.3 Suggest two or three reasons why the engine of a car which has stopped running would not start again.																					
UNADJ EFFECT	-5.0	-1.1	2.2	3.8	5.2	-4.8	5.2	-8.9	6.6	-7.1	3.2	-0.3	-0.3	1.3	-10.1	3.8	-2.8	-2.0	0.8	1.5	-16.6
STD ERROR	2.6	2.4	2.8	1.6	1.1	1.0	3.2	3.7	1.7	3.9	2.1	3.2	2.2	0.6	3.9	4.3	5.2	2.3	1.3	1.3	18.8
BAL EFFECT	-6.4	0.6	2.3	3.6	5.3	-4.7	2.7	-6.5	5.9	-7.1	2.9	0.1	-0.3	0.8	-7.3	4.3	-3.3	-0.4	1.1	0.5	-15.3
STD ERROR	2.4	2.4	1.8	1.6	1.3	0.9	2.9	3.4	1.8	4.8	2.1	2.9	2.1	0.6	3.8	3.4	4.2	2.5	1.2	1.3	18.3
EXER: R340 NATL % 79.6 Given data from four weight experiments, determine which one provides strongest evidence that one object is heavier than another.																					
UNADJ EFFECT	-0.7	-6.[illegible]	2.5	3.0	-0.4	0.3	-1.4	3.1	9.4	1.8	-3.7	0.9	-5.9	3.0	-24.8	1.3	-7.8	-7.5	1.5	4.2	-9.3
STD ERROR	3.[illegible]	2.9	2.1	2.7	1.6	1.6	4.9	3.8	3.0	3.2	3.5	3.1	3.4	0.8	5.3	4.2	5.1	3.8	1.8	1.7	10.2
BAL EFFECT	-1.4	-2.3	1.8	1.2	-1.0	1.0	-1.8	9.4	7.0	3.6	-5.8	0.0	-5.1	3.0	-25.2	1.1	-7.8	-4.6	1.3	3.1	-8.9
STD ERROR	3.4	2.7	2.1	1.9	1.5	1.5	5.2	3.8	2.7	2.9	3.3	2.8	2.7	0.9	5.8	4.0	5.2	3.5	1.6	1.5	11.0
EXER: R341 NATL % 74.9 Operate a beam balance.																					
UNADJ EFFECT	9.0	-10.5	-4.8	5.0	5.8	-6.1	-0.7	1.3	1.9	-4.7	7.5	-4.3	-2.4	2.7	-27.4	9.3	-3.8	-9.6	0.3	4.6	-2.3
STD ERROR	3.0	5.3	3.1	3.3	2.3	2.5	9.1	5.2	5.6	5.1	3.1	4.5	4.5	0.8	6.0	7.1	6.5	5.1	3.0	2.2	12.7
BAL EFFECT	7.4	-5.0	-5.8	3.3	4.8	-5.0	4.2	11.5	-3.5	-5.8	5.2	-5.7	-1.6	2.5	-26.0	10.6	-2.1	-7.3	-0.4	4.1	-9.8
STD ERROR	3.5	4.8	3.0	3.3	2.3	2.5	10.5	5.8	5.3	4.9	3.1	4.2	4.2	0.8	6.3	8.6	6.2	5.1	3.0	2.4	11.0
EXER: R342 NATL % 66.2 Given the natural balance between hawks, rabbits and grass in a meadow, a decrease in the number of rabbits also affects the number of hawks and amount of grass.																					
UNADJ EFFECT	3.7	-12.2	4.5	2.2	1.7	-1.7	-14.6	-11.7	15.5	5.3	9.3	-1.7	-3.5	4.7	-24.0	-6.3	-22.1	-16.8	0.8	13.2	-38.6
STD ERROR	3.3	3.2	2.5	3.1	1.5	1.4	5.4	5.6	4.1	4.6	2.4	3.0	4.2	1.0	3.8	7.6	7.5	3.7	2.2	1.6	8.0
BAL EFFECT	0.9	-6.6	3.2	1.3	0.8	-0.8	-10.9	-1.1	8.0	3.4	4.6	-2.4	-1.2	3.3	-15.9	-6.1	-18.9	-12.0	1.5	9.4	-36.5
STD ERROR	3.4	3.1	2.0	2.0	1.2	1.2	4.5	5.5	4.2	3.9	2.2	2.8	3.7	1.0	4.4	6.1	7.1	3.8	2.2	1.7	8.8
EXER: R343 NATL % 56.4 Differentiate fact from theory in a set of statements.																					
UNADJ EFFECT	-0.9	-7.6	-0.6	7.9	2.4	-1.1	-6.6	-6.2	-2.7	12.4	-2.0	-0.6	2.7	4.0	-19.6	-18.1	-11.8	-14.0	-0.3	9.9	-19.5
STD ERROR	3.2	2.7	2.7	2.3	1.8	1.6	6.4	3.8	5.6	3.9	4.0	3.5	2.8	0.9	3.7	7.6	4.8	4.1	2.1	2.1	10.0
BAL EFFECT	-0.3	-3.5	-2.6	6.6	0.7	-0.6	-2.8	4.1	-11.0	12.5	-4.1	-3.1	5.3	3.8	-17.7	-19.5	-10.3	-11.9	-1.0	9.2	-19.3
STD ERROR	2.6	2.8	2.1	2.3	1.6	1.3	6.9	4.1	5.4	4.5	3.2	2.8	2.3	1.0	4.4	8.5	5.1	4.1	2.1	2.1	10.1
EXER: R344 NATL % 55.3 Time 10 swings of a pendulum.																					
UNADJ EFFECT	-0.3	-5.4	3.0	0.3	6.2	-5.5	11.1	-10.3	11.2	-0.9	-13.9	6.2	0.7	4.3	-28.1	-40.7	-7.8	-0.7	0.1	2.6	-46.8
STD ERROR	3.6	4.8	3.6	4.3	2.6	2.3	9.9	7.5	7.4	4.2	4.1	5.1	6.0	0.8	6.0	7.9	6.8	5.5	3.8	2.0	13.2
BAL EFFECT	1.0	-4.4	2.1	-0.4	6.4	-5.6	10.5	3.2	8.1	-0.7	-14.7	4.5	-0.8	4.0	-25.1	-41.4	-6.3	-0.1	2.7	0.7	-40.7
STD ERROR	3.6	5.1	3.4	3.8	2.6	2.3	10.1	9.2	7.1	4.0	4.3	5.0	5.7	0.9	7.0	9.5	8.5	5.5	3.6	2.2	12.0

EXER: B345 NATL % 39.8 Realize that atoms are rarely destroyed so that carbon atoms in a piece of bread could have been part of a dinosaur's body in ages past.

UNADJ EFFECT	5.5	0.6	-4.3	-1.4	4.9	-4.5	-3.5	-15.9	17.7	-4.1	4.9	4.6	-10.9	3.0	-21.4	-6.2	-7.3	-18.0	-0.1	9.5	-3.6
STD ERROR	4.2	5.8	2.8	3.1	2.3	2.3	4.7	4.2	9.2	3.6	5.1	3.2	3.2	0.8	4.1	6.3	12.0	3.4	2.8	2.8	5.3
BAL EFFECT	3.5	5.1	-3.2	-4.7	3.6	-3.3	-0.3	-7.9	11.6	-1.5	3.9	2.3	-10.3	1.9	-16.5	0.4	-7.7	-13.6	0.9	7.1	-2.8
STD ERROR	2.8	5.8	2.3	2.8	1.7	1.6	5.2	4.1	6.9	3.1	5.5	3.2	3.3	0.7	4.7	4.0	11.0	2.9	2.3	2.0	6.1

EXER: B346 NATL % 31.1 Doubling the linear dimensions of a cube will increase the volume eight times.

UNADJ EFFECT	4.0	-9.3	1.9	2.4	3.0	-3.0	-7.8	-3.4	11.6	5.8	2.4	-2.9	-2.7	1.3	-7.3	-1.0	-11.0	-5.9	-1.9	6.8	-10.8
STD ERROR	3.3	2.8	2.0	2.5	1.5	1.5	4.3	3.5	5.3	3.8	3.1	3.7	3.4	0.6	3.1	5.5	5.1	2.9	2.0	1.3	7.4
BAL EFFECT	2.8	-7.0	2.2	1.0	2.7	-2.7	-6.2	-1.6	8.0	4.1	0.1	-2.3	-0.2	0.5	-2.0	-1.8	-9.1	-3.9	-1.5	5.1	-9.7
STD ERROR	3.2	2.8	2.1	2.4	1.4	1.5	4.5	4.1	5.1	3.8	3.3	3.5	3.2	0.7	3.3	5.9	4.7	2.9	2.0	1.3	7.8

EXER: B347 NATL % 17.8 Explain why a flask planted with corn and stoppered with a one-hole stopper loses weight daily.

UNADJ EFFECT	5.3	-3.7	-0.5	-1.9	2.7	-2.0	0.4	-6.8	3.6	1.5	1.1	1.9	-2.1	1.7	-5.8	-9.8	-5.3	-3.4	-2.3	4.0	-3.4
STD ERROR	2.7	1.9	1.9	1.8	1.2	1.0	4.8	2.6	3.6	3.7	2.4	2.5	1.8	0.5	2.4	2.5	2.6	2.1	1.5	1.3	6.5
BAL EFFECT	5.2	-3.1	-0.1	-2.8	1.9	-1.7	2.6	-3.8	1.7	1.6	-0.7	1.0	-1.0	1.2	-3.2	-9.6	-3.3	-2.2	-2.5	3.3	-3.0
STD ERROR	2.5	1.9	1.8	2.0	1.1	1.0	4.1	2.5	3.3	3.6	2.3	2.4	1.8	0.5	2.7	3.4	2.7	2.2	1.5	1.1	6.7

EXER: B348 NATL % 11.2 Determine the density of a wood block using a beam balance.

UNADJ EFFECT	7.2	-9.2	-1.8	1.9	7.0	-7.4	-8.6	-1.5	3.2	2.2	2.1	1.1	-2.3	1.4	-11.2	-2.6	-6.7	-5.4	-2.2	5.3	-6.6
STD ERROR	3.2	1.7	2.0	2.8	1.5	1.6	2.1	5.2	4.3	3.1	3.3	3.4	2.8	0.4	1.5	4.3	2.9	2.9	2.2	1.8	4.7
BAL EFFECT	6.2	-6.8	-1.5	0.8	6.6	-6.9	-4.3	2.1	-0.2	1.3	0.9	0.8	-1.8	0.6	-6.4	2.4	-5.1	-2.9	-2.6	4.3	-5.9
STD ERROR	3.3	1.9	2.0	2.8	1.4	1.4	2.7	5.4	4.5	2.9	3.3	3.5	2.6	0.3	2.1	3.5	3.1	2.9	2.1	1.5	6.1

OBJECTIVE: Understand the investigative nature of science.

EXER: B349 NATL % 91.3 Select the skill which is most useful to scientific research.

UNADJ EFFECT	1.0	-1.9	0.1	2.2	-0.8	0.7	-10.1	-3.5	3.6	1.9	4.1	-1.4	0.4	2.2	-15.6	-5.4	-7.6	-1.9	-0.3	3.2	-10.3
STD ERROR	1.8	1.8	1.6	1.3	1.2	1.1	5.8	2.5	2.9	2.1	1.3	2.1	1.9	0.5	3.8	3.3	6.0	2.2	1.4	1.2	7.9
BAL EFFECT	-0.2	-1.5	0.4	1.1	-1.2	1.1	-9.1	1.5	2.7	2.2	2.9	-2.4	0.4	2.1	-14.8	-4.6	-6.7	0.1	-0.2	2.1	-11.6
STD ERROR	1.5	2.2	1.4	1.4	1.1	1.0	5.2	2.8	3.0	2.2	1.5	2.1	1.8	0.6	4.3	3.3	5.5	2.2	1.5	1.0	7.1

EXER: B350 NATL % 72.4 Recognize that repeated measures of the same object will usually yield similar results but not exactly the same.

UNADJ EFFECT	2.4	-6.6	3.7	-1.0	-1.5	1.2	2.3	-8.4	2.3	0.3	0.0	-0.2	1.8	1.8	-2.4	-13.8	-9.0	-4.0	-0.1	4.3	2.6
STD ERROR	2.8	3.2	2.3	2.2	1.4	1.2	5.8	4.7	3.9	4.4	2.9	3.4	2.4	0.8	4.0	4.5	6.3	3.3	1.9	1.5	5.9
BAL EFFECT	3.7	-8.9	3.7	-0.2	-1.8	1.6	10.3	-8.2	-2.1	-1.6	-2.3	-0.3	3.4	1.2	2.7	-16.5	-8.3	-3.2	-0.8	4.0	6.4
STD ERROR	2.5	3.9	2.2	2.2	1.3	1.2	4.6	4.9	4.5	4.1	2.4	2.9	2.5	1.0	4.7	4.9	5.6	3.3	1.8	1.6	6.1

EXER: B351 NATL % 27.5 Select the kinetic-molecular theory as a generalization of the gas laws of Boyle, Charles, and Graham.

UNADJ EFFECT	6.1	-3.6	0.4	-3.9	1.7	-0.9	-8.3	-7.4	8.2	2.5	-3.1	1.1	3.0	1.6	-5.5	-12.6	-5.1	-14.6	1.2	7.6	-15.3
STD ERROR	2.9	2.3	2.3	2.1	1.5	1.3	2.8	3.2	5.0	3.4	2.8	2.9	3.1	0.5	2.7	4.0	4.3	1.9	1.8	1.6	5.4
BAL EFFECT	4.4	-2.3	0.8	-5.8	0.8	-0.6	-4.7	-6.0	4.9	3.1	-4.9	-0.3	5.7	0.6	-0.1	-8.9	-5.2	-14.6	1.0	7.5	-12.0
STD ERROR	2.8	2.4	2.2	2.1	1.4	1.2	3.3	3.5	4.6	3.1	2.7	2.6	3.4	0.5	2.4	5.6	4.6	2.0	1.7	1.5	5.9

OBJECTIVE: Have attitudes about and appreciation of scientists, science, and the consequences of science that stem from adequate understandings.

EXER: B352 NATL % 89.4 Recognize that scientists want to know more about the world.

UNADJ EFFECT	3.8	-7.4	0.6	1.4	-0.4	0.3	1.9	-6.6	4.4	2.9	5.4	-0.7	-5.1	1.6	-6.7	-7.5	0.7	-13.4	1.1	4.8	4.6
STD ERROR	2.0	3.1	2.1	1.9	1.5	1.3	5.9	4.2	2.8	2.3	2.1	3.3	2.4	0.8	4.2	7.6	4.2	3.7	1.6	1.5	7.2
BAL EFFECT	3.1	-5.1	0.6	0.4	-1.0	0.9	3.8	-3.4	0.9	2.9	3.9	-1.2	-3.4	1.0	-2.1	-8.8	3.2	-12.1	0.8	4.1	3.5
STD ERROR	1.8	2.8	1.7	2.0	1.4	1.2	5.8	4.3	2.9	2.5	2.2	3.4	2.2	0.7	4.5	6.3	4.1	3.4	1.6	1.5	7.5

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME APP.SUB.	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: 8351 NATL % 71.9 Recognize that United States scientists are not ahead of scientists in other countries in every field of research.																					
UNADJ EFFECT	6.1	-11.7	3.0	2.7	1.8	-1.1	-11.2	-11.5	7.9	-0.7	7.9	-0.6	0.0	4.0	-18.7	-7.9	-21.9	-8.7	3.6	8.0	-9.5
STD ERROR	2.1	3.1	2.8	2.5	1.5	1.3	6.8	5.5	4.2	4.0	2.0	3.8	3.1	0.9	3.5	5.8	6.9	1.4	1.8	1.5	6.9
BAL EFFECT	4.8	-9.4	1.3	2.2	0.0	-0.0	-2.3	-6.4	2.8	-3.3	4.4	-1.4	1.5	2.6	-11.1	-7.3	-19.2	-4.9	3.1	6.0	-13.3
STD ERROR	2.1	3.5	2.1	2.5	1.4	1.3	6.5	4.8	4.6	4.1	2.1	3.2	2.8	0.8	3.5	5.3	6.6	3.2	1.7	1.6	5.8
EXER: 8358 NATL % 15.8 Frequency of watching special television shows dealing with a scientific topic.																					
UNADJ EFFECT	-3.8	-0.2	1.2	2.8	7.9	-6.6	0.8	-3.9	5.1	1.2	0.6	-0.2	-2.4	1.5	-6.0	-7.9	-10.0	-6.3	0.1	4.6	-5.7
STD ERROR	1.6	1.6	1.4	1.5	0.9	0.7	2.5	1.8	2.7	2.0	2.6	1.8	1.2	0.4	2.1	2.7	1.9	1.4	1.4	1.2	6.0
BAL EFFECT	-2.5	2.1	1.1	1.5	7.0	-6.1	-1.0	-0.7	2.6	1.1	1.4	-0.6	-2.1	1.0	-4.2	-5.7	-9.6	-4.6	0.3	1.6	-3.7
STD ERROR	1.5	1.6	1.4	1.7	0.9	0.7	2.4	2.1	2.9	1.9	2.2	1.9	1.2	0.5	2.5	3.0	2.3	1.5	1.9	1.3	4.9
OBJECTIVE: Know the fundamental facts and principles of science.																					
EXER: 0801 NATL % 96.3 (Text for this exercise was not released)																					
UNADJ EFFECT	0.6	-2.1	1.6	-1.0	-2.0	2.1	-4.1	-1.5	2.0	-0.4	0.6	1.1	-0.5	2.1	-5.1	-15.3	-1.1	-4.2	1.3	2.2	-17.4
STD ERROR	1.2	2.2	1.2	1.3	0.8	0.6	4.1	3.1	1.3	1.7	1.0	1.3	2.2	0.6	3.1	5.9	1.7	2.6	0.8	0.9	7.4
BAL EFFECT	0.1	-1.8	1.6	-0.6	-2.6	2.1	-2.9	-1.7	0.4	0.3	0.7	0.3	-0.1	1.9	-3.8	-14.3	0.1	-3.9	0.9	1.9	-15.7
STD ERROR	1.0	1.8	1.1	1.2	0.8	0.7	3.3	2.7	1.5	1.5	1.0	1.1	1.9	0.6	2.6	5.3	2.0	2.3	0.8	0.7	5.8
EXER: 0802 NATL % 93.8 (Text for this exercise was not released)																					
UNADJ EFFECT	-0.2	-0.9	1.3	-0.8	-1.2	1.1	-4.7	-5.4	3.9	2.1	1.3	0.6	-2.9	0.8	-4.0	-4.4	-5.9	-1.0	2.1	1.2	-17.4
STD ERROR	1.9	1.6	1.7	1.2	1.0	0.9	6.0	2.1	1.2	1.1	1.3	2.0	2.1	0.4	2.8	2.2	5.3	2.0	1.4	1.1	8.7
BAL EFFECT	-1.1	0.6	1.6	-1.5	-1.4	1.2	-4.8	-3.5	4.5	2.5	3.1	0.1	-3.4	0.5	-3.1	-1.8	-5.9	0.5	2.3	0.5	-17.0
STD ERROR	1.8	1.8	1.2	1.1	1.0	0.9	5.2	2.4	1.6	1.2	1.4	1.9	1.9	0.4	2.9	2.7	4.9	2.1	1.5	1.1	8.6
EXER: 0803 NATL % 89.7 (Text for this exercise was not released)																					
UNADJ EFFECT	1.9	-11.2	2.8	3.7	1.8	-1.7	-1.9	-5.0	5.5	-1.0	0.7	0.8	-2.1	1.8	-11.8	-6.5	-6.6	-4.8	1.4	1.8	-11.7
STD ERROR	2.1	4.0	1.7	1.8	1.4	1.3	4.2	3.7	2.7	2.6	3.9	2.3	2.6	0.5	3.8	5.9	8.7	2.8	1.4	1.5	6.8
BAL EFFECT	1.2	-9.9	2.1	4.4	1.3	-1.3	2.1	-1.6	3.9	-2.0	-1.1	1.0	-1.4	1.3	-6.7	-8.4	-4.6	-2.4	3.1	0.6	-12.6
STD ERROR	2.1	4.1	1.8	1.8	1.1	1.1	4.2	4.3	2.4	2.9	3.8	2.3	2.4	0.6	4.6	5.8	7.8	2.4	1.4	1.4	6.9
EXER: 0804 NATL % 84.8 (Text for this exercise was not released)																					
UNADJ EFFECT	4.0	-6.9	3.5	-2.1	0.7	-0.7	-7.0	-5.2	3.2	2.0	1.2	5.1	-2.3	3.7	-16.3	-9.1	-5.2	-6.5	0.3	4.4	-0.6
STD ERROR	2.0	2.7	2.4	2.3	1.2	1.1	7.1	4.0	3.1	2.5	2.6	2.1	2.3	0.8	3.8	5.2	4.3	2.6	1.4	1.4	4.3
BAL EFFECT	3.0	-3.6	2.9	-3.5	-0.0	0.0	-1.6	-0.2	-0.6	2.5	-1.6	3.6	-1.8	3.1	-13.9	-7.3	-3.8	-4.1	-0.1	3.0	2.0
STD ERROR	1.9	2.7	2.2	2.3	1.1	1.0	5.9	4.1	2.6	2.3	2.5	2.0	2.1	0.8	3.6	5.1	4.1	2.4	1.4	1.3	4.5
EXER: 0805 NATL % 82.9 (Text for this exercise was not released)																					
UNADJ EFFECT	4.1	-5.0	-2.3	2.8	0.0	-0.0	-13.2	-5.3	7.3	1.4	9.1	-1.1	-5.3	3.3	-20.2	-13.2	-4.6	-10.6	2.1	5.3	-30.6
STD ERROR	2.8	2.6	2.5	1.9	1.6	1.4	7.1	4.3	3.6	3.5	2.2	2.6	3.2	0.8	5.9	7.1	6.3	3.5	2.1	1.6	8.8
BAL EFFECT	2.4	-1.7	-2.0	1.2	-0.5	0.4	-11.0	2.8	4.4	1.8	7.0	-3.3	-3.7	2.9	-17.9	-11.2	-3.4	-7.2	2.4	3.4	-33.0
STD ERROR	2.6	2.7	2.1	1.7	1.4	1.3	7.2	4.7	3.5	2.7	2.3	2.3	2.8	0.9	6.6	5.9	5.6	3.4	2.0	1.5	8.1

EXER: 0806 NATL % 78.0 (Text for this exercise was not released)

UNADJ EFFECT	-5.1	-0.2	2.4	3.0	3.6	-1.1	5.7	-18.4	6.7	4.0	-4.2	-0.8	2.3	3.3	-14.2	-13.8	-6.3	-13.1	2.8	6.2	-25.9
STD ERROR	3.6	2.9	2.9	2.7	1.9	1.6	4.8	6.3	4.3	2.8	4.8	4.1	3.1	1.1	3.7	10.2	5.2	4.2	1.9	2.1	13.0
BAL EFFECT	-4.7	1.5	2.1	1.3	0.7	-0.6	6.8	-11.6	2.6	4.6	-4.1	-2.3	3.3	2.8	-11.9	-11.4	-6.4	-11.6	2.6	5.6	-24.3
STD ERROR	3.1	2.8	2.6	3.0	1.7	1.4	5.3	5.8	4.4	2.4	4.0	3.7	2.9	1.0	3.6	10.0	4.6	4.0	1.8	2.0	13.4

EXER: 0807 NATL % 77.7 (Text for this exercise was not released)

UNADJ EFFECT	4.4	-0.3	-2.7	-0.0	4.6	-4.2	-2.3	-10.3	-2.3	-2.0	3.6	2.5	-0.2	0.0	-0.8	0.9	-11.7	1.7	-2.7	3.2	0.4
STD ERROR	2.0	2.7	1.9	2.2	1.6	1.2	4.7	5.4	3.7	3.6	2.2	2.0	2.2	0.9	3.3	9.2	5.3	3.4	1.8	1.3	9.9
BAL EFFECT	3.1	-0.1	-2.4	-0.2	5.2	-4.2	-0.6	-8.8	-3.5	-3.2	2.8	1.8	1.7	-0.3	1.6	0.3	-10.8	2.3	-2.7	2.7	1.0
STD ERROR	1.9	3.3	2.1	2.4	1.5	1.2	4.8	4.8	3.9	3.7	2.3	2.1	2.4	0.9	3.5	9.2	5.1	3.8	1.8	1.4	10.2

EXER: 0808 NATL % 75.6 (Text for this exercise was not released)

UNADJ EFFECT	2.9	-3.4	-2.5	3.4	1.4	-1.2	-12.3	-8.5	9.7	4.9	4.6	3.5	-7.3	2.3	-13.2	-8.4	-7.8	-8.8	3.4	4.3	-21.3
STD ERROR	3.3	2.9	2.8	2.3	1.4	1.3	6.0	6.5	4.5	3.4	2.5	2.6	4.1	0.6	4.3	4.0	5.6	4.4	2.0	1.8	9.4
BAL EFFECT	1.1	0.5	-2.0	1.1	0.9	-0.8	-10.5	-2.1	7.7	5.3	2.5	2.7	-6.9	1.7	-11.3	-4.0	-6.3	-5.5	4.4	2.7	-22.7
STD ERROR	2.9	3.1	2.6	2.3	1.4	1.3	5.9	7.3	4.3	3.9	2.9	2.5	3.9	0.8	5.0	3.4	5.3	4.1	2.0	1.7	8.7

EXER: 0809 NATL % 72.1 (Text for this exercise was not released)

UNADJ EFFECT	8.0	-12.5	5.9	-3.4	-1.2	1.2	-8.9	-10.6	16.8	2.0	0.7	6.9	-5.8	5.6	-26.1	-18.2	-11.2	-13.4	0.9	8.1	-8.8
STD ERROR	2.5	3.1	2.4	3.3	1.3	1.3	7.7	4.1	3.5	3.6	3.7	2.6	3.5	0.9	3.3	6.8	7.0	4.0	2.0	1.4	10.0
BAL EFFECT	5.9	-4.8	4.8	-3.3	-2.3	2.3	-4.9	2.0	12.6	0.4	-4.9	4.6	-4.4	4.8	-21.3	-14.1	-9.2	-7.9	1.9	4.5	-5.4
STD ERROR	2.3	3.0	2.3	2.7	1.2	1.2	5.8	3.9	3.1	3.1	3.4	2.6	2.9	0.9	3.7	5.8	6.4	3.9	2.1	1.6	10.7

EXER: 0810 NATL % 70.8 (Text for this exercise was not released)

UNADJ EFFECT	5.8	-8.3	1.0	-0.2	0.2	-0.2	-5.3	-19.7	15.2	-0.4	6.3	1.1	-5.2	4.4	-22.7	-23.1	-18.6	-10.2	3.8	4.0	-26.6
STD ERROR	2.8	2.9	2.8	2.4	1.7	1.6	5.4	5.8	4.3	3.1	2.8	3.5	3.0	1.1	5.4	6.5	5.7	3.8	2.0	1.7	8.3
BAL EFFECT	4.0	-3.8	0.9	-2.2	-0.8	0.7	-1.8	-9.4	11.8	0.7	2.8	-1.3	-3.9	3.3	-17.0	-16.9	-16.7	-6.2	4.2	5.4	-26.4
STD ERROR	2.8	3.1	2.4	2.4	1.7	1.5	4.4	6.2	4.4	3.3	3.0	3.4	2.8	1.2	6.8	6.7	5.5	3.6	2.0	1.7	8.2

EXER: 0811 NATL % 71.3 (Text for this exercise was not released)

UNADJ EFFECT	1.6	-8.4	2.2	3.5	10.3	-10.2	-1.7	-8.9	4.7	-3.5	-2.0	6.9	0.8	4.6	-23.8	-5.6	-10.7	-3.5	1.0	3.7	-12.1
STD ERROR	2.2	3.0	2.3	2.4	1.5	1.5	5.5	4.2	2.9	2.9	3.0	2.6	3.8	0.8	4.1	6.6	6.8	3.6	1.9	1.6	9.6
BAL EFFECT	0.1	-7.1	2.0	4.0	9.1	-9.2	-1.1	-0.1	-0.1	-4.5	-5.1	6.1	2.3	3.9	-19.2	-7.0	-7.8	-0.3	0.9	1.7	-9.4
STD ERROR	2.3	3.1	2.3	2.6	1.5	1.5	4.1	4.2	3.0	2.4	3.0	2.8	3.3	0.8	4.2	5.8	6.5	3.2	1.7	1.7	11.0

EXER: 0812 NATL % 68.9 (Text for this exercise was not released)

UNADJ EFFECT	-2.1	-7.7	4.2	3.5	1.6	-1.5	-13.5	-1.8	9.8	2.1	1.0	0.7	-0.5	2.8	-12.4	-9.8	0.0	-12.2	0.6	5.2	-13.5
STD ERROR	2.9	2.4	2.1	2.5	1.5	1.3	7.0	3.3	2.8	4.0	2.7	2.9	2.3	0.7	3.6	7.8	6.1	3.0	2.2	1.4	10.2
BAL EFFECT	-4.2	-5.4	4.5	3.1	0.5	-0.4	-14.0	5.0	7.2	2.6	-3.0	0.6	0.5	2.6	-11.2	-10.0	2.5	-10.2	1.3	3.4	-16.9
STD ERROR	2.8	2.3	2.0	2.5	1.4	1.3	5.6	4.6	3.3	3.6	2.8	2.9	2.2	0.9	4.4	6.2	6.1	3.0	2.3	1.5	9.0

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME APP.SUB.	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: QB13 NATL % 67.4 (Text for this exercise was not released)																					
UNADJ EFFECT	4.1	-8.6	2.3	0.5	8.2	-7.2	0.8	-23.5	19.7	-5.0	4.5	1.2	2.3	5.7	-27.8	-10.6	-10.6	-7.1	-0.3	5.9	-2.0
STD ERROR	2.8	3.1	3.0	2.7	1.4	1.2	7.9	4.4	3.3	3.3	3.8	3.6	2.8	1.1	3.7	9.9	7.3	4.1	2.4	1.4	11.0
BAL EFFECT	3.1	-5.5	1.3	0.1	7.1	-6.2	3.5	-13.3	14.1	-5.6	0.1	-0.1	3.7	4.0	-19.1	-9.1	-9.2	-1.9	-0.3	3.3	-0.9
STD ERROR	2.7	2.9	2.8	2.4	1.3	1.1	6.2	1.8	3.7	1.0	3.9	2.9	2.7	1.0	4.1	9.0	6.4	3.4	2.4	1.3	9.8
EXER: QB14 NATL % 65.6 (Text for this exercise was not released)																					
UNADJ EFFECT	-4.7	-3.8	-1.2	9.7	3.9	-2.2	-1.0	-12.6	9.4	5.5	-1.1	5.4	-5.5	4.5	-21.3	-20.8	-17.8	-20.0	6.5	7.1	5.1
STD ERROR	3.8	3.1	3.6	2.7	1.9	1.7	6.7	6.0	5.8	3.6	4.5	3.4	3.1	1.1	4.6	8.7	5.7	4.0	2.1	2.0	9.5
BAL EFFECT	-5.2	2.4	-3.3	7.6	1.7	-1.4	0.2	-1.2	3.0	4.9	-1.5	2.1	-3.3	3.6	-15.3	-21.8	-15.6	-16.8	6.5	5.2	5.7
STD ERROR	3.0	2.9	2.9	2.6	1.8	1.8	5.7	5.4	5.0	3.8	3.4	2.9	3.0	1.1	4.8	8.1	5.6	4.0	2.0	1.9	9.5
EXER: QB15 NATL % 63.7 (Text for this exercise was not released)																					
UNADJ EFFECT	1.6	-4.4	-1.5	4.1	7.1	-5.1	-7.8	-12.5	1.9	-1.2	4.2	5.3	-1.4	3.7	-19.5	-19.3	-17.8	-11.9	-0.2	7.7	-6.0
STD ERROR	2.9	3.1	2.6	2.1	1.9	1.7	5.9	4.7	5.4	3.3	4.6	2.3	2.8	1.0	3.2	9.4	5.9	4.0	2.1	2.0	13.9
BAL EFFECT	0.4	-0.7	-1.5	2.6	5.6	-4.9	-4.7	-3.6	-3.4	-0.6	2.9	3.5	-0.1	2.9	-12.8	-18.5	-15.5	-9.9	-1.3	7.1	-2.2
STD ERROR	2.5	3.1	2.7	2.4	1.8	1.5	5.5	4.0	5.6	2.5	4.6	2.6	2.7	1.0	2.9	11.3	5.9	3.6	1.9	1.9	12.7
EXER: QB16 NATL % 60.1 (Text for this exercise was not released)																					
UNADJ EFFECT	1.4	3.2	-1.0	-3.1	9.4	-8.5	9.5	-23.0	4.6	-6.5	-0.7	4.3	0.9	3.6	-26.0	-8.3	-5.1	-6.1	-2.2	5.7	-16.9
STD ERROR	3.2	3.4	2.5	2.5	2.0	1.9	4.7	6.0	5.9	3.1	4.3	2.9	2.4	0.9	4.6	5.9	6.9	4.4	2.3	1.5	9.5
BAL EFFECT	0.6	7.5	-2.4	-4.0	8.4	-8.0	11.1	-15.1	2.3	-2.7	-1.5	2.2	-0.0	3.0	-23.8	-3.0	-5.1	-3.1	-2.0	4.3	-15.2
STD ERROR	2.6	3.5	2.4	2.6	1.9	1.8	4.6	6.6	4.5	2.8	4.5	2.9	2.3	0.8	4.4	5.7	6.3	4.2	2.2	1.5	8.6
EXER: QB17 NATL % 61.9 (Text for this exercise was not released)																					
UNADJ EFFECT	4.9	-10.1	4.5	-3.0	1.3	-0.9	-8.2	-13.6	6.0	0.9	3.4	4.8	-5.4	1.7	-7.8	-13.7	-18.6	-12.6	2.5	8.8	-23.0
STD ERROR	2.7	3.3	2.8	2.4	2.0	1.9	7.5	10.4	5.7	3.3	4.1	3.1	3.1	0.8	5.8	5.5	7.1	3.3	2.4	2.0	8.2
BAL EFFECT	3.9	-7.8	4.6	-4.1	0.1	-0.1	-1.6	-10.1	2.9	0.6	2.6	3.1	-4.0	0.4	-0.2	-7.3	-16.9	-10.9	1.7	8.1	-19.5
STD ERROR	2.7	3.7	2.8	2.7	1.9	1.8	6.5	10.9	6.3	3.3	3.4	2.9	2.9	0.8	6.2	6.0	7.1	3.3	2.4	1.9	7.5
EXER: QB18 NATL % 59.6 (Text for this exercise was not released)																					
UNADJ EFFECT	3.6	-2.0	-4.2	3.5	4.1	-3.4	-3.4	-9.7	5.2	1.8	0.5	7.3	-3.7	2.5	-13.0	-2.5	-0.2	-6.4	-1.4	4.5	-3.1
STD ERROR	3.3	4.2	3.1	3.2	1.8	1.6	5.7	5.7	4.3	4.8	4.5	4.1	3.8	0.9	4.3	4.8	6.8	3.7	2.0	1.7	6.4
BAL EFFECT	2.6	0.9	-4.4	2.2	3.4	-3.1	-0.4	-5.0	2.4	1.2	-0.2	5.5	-3.4	1.8	-11.1	-1.2	0.6	-3.7	-1.3	3.1	-7.0
STD ERROR	3.2	4.1	3.1	3.2	1.8	1.6	6.6	5.8	4.8	4.9	4.3	4.0	3.5	0.8	3.8	5.3	6.8	3.7	1.9	1.7	6.0
EXER: QB19 NATL % 57.3 (Text for this exercise was not released)																					
UNADJ EFFECT	-2.2	-0.5	-1.0	2.0	6.8	-6.8	-7.3	-7.6	7.4	-2.0	1.6	8.1	-3.2	4.0	-19.0	-8.9	-12.1	-9.4	1.5	6.1	1.6
STD ERROR	2.2	3.2	2.0	2.4	1.7	1.7	4.9	4.8	4.9	4.0	2.6	2.4	3.6	0.9	4.5	6.4	7.0	3.6	1.9	1.6	8.6
BAL EFFECT	3.0	3.2	-3.5	1.3	6.0	-6.0	-3.8	2.0	2.6	-1.5	-0.9	5.7	-3.5	3.4	-16.0	-8.0	-10.6	-7.3	1.7	4.5	2.6
STD ERROR	2.1	2.8	1.8	2.1	1.6	1.6	4.4	5.0	4.6	3.5	2.6	2.4	3.2	1.0	5.3	6.4	6.7	3.3	2.0	1.5	7.5

EXER: 0820 NATL % 56.7 (Text for this exercise was not released)

UNADJ EFFECT	5.6	-14.0	-1.5	8.3	2.3	-2.7	-16.2	-15.9	3.5	7.0	5.4	3.0	-2.0	4.7	-33.1	-6.8	-27.9	-13.2	-0.6	10.3	-9.9
STD ERROR	2.8	3.2	2.5	3.2	1.6	1.4	6.1	6.1	4.3	3.7	3.7	4.0	2.7	1.0	3.6	9.4	4.0	4.5	1.9	2.0	15.3
BAL EFFECT	3.4	-6.9	-2.5	5.7	2.3	-2.0	-9.0	-1.0	-4.9	6.8	1.9	0.6	0.7	3.9	-27.0	-7.1	-23.3	-10.4	-1.4	8.9	-7.8
STD ERROR	2.4	3.1	2.2	2.9	1.4	1.2	4.5	4.9	4.3	3.0	3.8	3.7	2.2	0.9	4.3	7.4	4.2	4.2	1.9	1.9	15.7

EXER: 0821 NATL % 54.5 (Text for this exercise was not released)

UNADJ EFFECT	8.1	-1.9	-1.8	-4.9	9.2	-8.3	9.3	-18.1	3.6	-5.6	0.4	4.7	-1.5	2.2	-9.4	-14.8	-17.1	-1.7	-0.1	5.7	-10.9
STD ERROR	2.9	3.8	2.9	2.7	1.8	1.8	6.6	6.4	7.4	5.2	4.1	2.6	4.2	0.7	5.2	8.5	6.2	3.4	2.1	1.8	11.4
BAL EFFECT	6.7	-0.4	-1.9	-4.5	8.7	-7.9	11.4	-13.8	-0.2	-4.1	-2.0	3.6	0.5	1.2	-4.1	-10.3	-15.9	-1.2	-0.5	5.3	-4.5
STD ERROR	2.6	3.0	2.9	2.9	1.8	1.7	7.0	5.5	5.3	5.8	3.4	2.6	4.2	0.7	4.6	7.1	4.8	3.5	2.0	1.6	11.5

EXER: 0822 NATL % 54.1 (Text for this exercise was not released)

UNADJ EFFECT	6.4	-11.0	-0.1	2.3	6.2	-6.1	-16.7	-17.5	18.9	-0.7	1.5	-1.6	-0.2	1.2	-12.4	5.2	-11.7	-14.2	0.1	8.6	-4.6
STD ERROR	3.2	3.5	2.8	3.3	1.8	1.6	7.7	6.5	3.7	3.9	4.5	3.6	3.8	0.4	5.7	8.2	8.5	3.9	2.6	2.0	9.3
BAL EFFECT	5.6	-6.4	0.1	-1.1	5.4	-5.1	-11.7	-14.5	14.8	-1.1	0.5	-2.7	1.9	-0.2	-2.6	9.0	-8.2	-11.5	0.3	6.9	-10.9
STD ERROR	3.0	3.5	2.8	2.9	1.6	1.5	7.3	7.4	4.1	3.8	4.0	3.3	3.5	0.8	5.8	7.7	7.0	3.9	2.5	2.0	9.2

EXER: 0823 NATL % 46.6 (Text for this exercise was not released)

UNADJ EFFECT	9.4	-8.5	-1.7	-0.3	2.3	-2.0	-9.9	-18.3	20.[illegible]	-1.5	0.6	5.6	-4.8	2.8	-19.1	-4.3	-15.5	-14.6	1.6	10.2	-16.0
STD ERROR	2.9	3.2	3.5	2.9	1.9	1.7	4.7	5.7	6.4	3.5	4.3	4.1	3.6	0.8	3.8	5.5	5.8	3.5	2.4	1.8	9.4
BAL EFFECT	8.2	-4.8	-0.8	-3.7	1.3	-1.2	-6.4	-11.8	15.6	-0.8	-2.4	4.0	-2.6	1.3	-12.1	4.7	-13.6	-11.7	2.2	7.9	-15.8
STD ERROR	2.5	2.9	3.3	2.4	1.7	1.5	5.2	5.6	6.0	3.0	3.7	3.9	4.1	0.8	4.7	5.6	5.1	3.4	2.2	1.6	9.6

EXER: 0824 NATL % 45.5 (Text for this exercise was not released)

UNADJ EFFECT	2.6	-1.2	-8.3	-1.7	-0.6	0.4	3.5	-16.4	14.5	2.4	5.2	-6.9	-5.3	2.6	-16.0	-10.3	5.7	-14.3	-2.3	6.7	-24.1
STD ERROR	3.4	3.4	3.2	2.6	2.0	1.9	7.3	6.2	5.5	3.9	5.4	4.4	2.8	0.8	3.9	5.5	6.7	2.7	2.4	1.6	8.4
BAL EFFECT	2.8	1.3	-0.9	-3.4	-1.4	1.3	4.5	-10.2	10.4	1.6	4.1	-9.2	-3.0	2.0	-13.1	-6.4	4.4	-11.9	-2.1	5.7	-20.6
STD ERROR	3.0	3.1	3.1	2.7	1.7	1.7	7.1	6.3	5.1	3.5	5.0	4.6	2.7	0.8	4.2	7.0	6.0	2.6	2.4	1.4	8.3

EXER: 0825 NATL % 43.8 (Text for this exercise was not released)

UNADJ EFFECT	1.5	-4.4	-0.8	3.6	7.2	-7.2	-11.9	-10.4	14.1	4.5	2.6	3.1	-2.9	3.8	-21.6	-0.7	-4.1	-9.8	-1.7	6.8	-16.1
STD ERROR	3.6	2.9	2.4	2.7	1.6	1.6	4.1	3.3	4.7	4.1	3.7	2.8	3.4	0.7	2.4	6.1	7.4	2.9	2.1	1.4	7.4
BAL EFFECT	-1.6	-0.1	-0.5	2.2	6.6	-6.6	-10.7	-1.1	8.9	4.4	0.7	1.6	-2.7	3.0	-16.9	-0.6	-1.2	-6.0	-1.1	4.0	-13.4
STD ERROR	3.4	2.9	2.3	2.4	1.6	1.5	4.1	3.3	5.1	4.0	3.7	2.9	3.0	0.8	3.1	5.4	7.3	2.8	2.1	1.8	8.7

EXER: 0826 NATL % 43.3 (Text for this exercise was not released)

UNADJ EFFECT	3.6	-13.5	5.3	2.5	-7.7	7.3	-16.8	-4.9	8.7	9.1	6.2	1.4	-5.8	2.5	-11.8	-4.4	-6.4	-6.9	0.1	6.0	-13.9
STD ERROR	2.7	3.2	2.7	2.7	1.7	1.6	3.9	4.9	5.8	4.8	2.8	4.1	2.8	0.9	3.1	7.1	6.3	3.1	2.0	1.4	8.3
BAL EFFECT	1.1	-9.6	5.6	0.7	-8.8	8.0	-12.9	-3.7	7.3	7.7	3.9	1.9	-4.9	1.3	-7.5	-0.3	-3.8	-3.5	0.3	3.6	-17.0
STD ERROR	2.7	3.6	2.4	2.7	1.6	1.5	4.8	4.0	5.8	4.0	2.9	4.0	2.8	0.9	2.9	6.8	5.2	2.9	1.9	1.4	8.3

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	LARGE CITY	MEDIUM CITY	SMALL CITY	URBAN FRINGE	SMALL TOWN FRINGE	NON RURAL	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST GRADUATE	UNKNOWN
REPS: 0827 NATL % 42.8 (Test for this exercise was not released)																					
UNADJ PERCT	7.2	-6.9	-2.6	0.8	0.4	-3.4	-6.0	-18.6	8.5	3.6	3.8	-1.7	0.2	3.0	-16.5	-12.9	-19.1	-7.0	-1.8	7.5	-15.8
STD ERROR	3.8	3.7	3.8	2.8	3.5	3.4	6.2	9.7	5.3	3.3	5.3	3.6	8.5	0.8	3.8	7.7	3.9	6.2	3.9	3.9	9.7
BAL PERCT	6.5	-3.7	-2.3	-5.5	3.7	-3.7	-2.3	-5.6	3.3	3.8	-0.7	-2.8	2.8	2.2	-10.8	-12.5	-16.1	-5.0	-2.1	6.3	-18.0
STD ERROR	3.3	3.7	3.8	2.8	3.5	3.3	5.3	8.3	5.3	3.3	5.3	3.3	8.8	0.9	3.9	8.7	8.3	8.0	3.9	3.9	9.3
REPS: 0828 NATL % 39.8 (Test for this exercise was not released)																					
UNADJ PERCT	2.6	-8.8	8.5	-6.9	7.8	-6.1	3.6	-13.3	2.1	0.8	-0.8	3.3	3.3	8.2	-19.8	-18.4	-19.8	-10.3	1.3	9.6	17.5
STD ERROR	2.7	2.5	3.9	2.3	3.8	3.5	5.9	3.3	8.3	8.3	3.2	3.5	2.9	0.8	2.8	5.1	8.5	7.8	2.3	3.9	18.5
BAL PERCT	3.3	-5.8	7.3	-7.8	6.3	-5.3	3.8	-7.6	-3.3	3.5	-3.9	-3.0	5.7	3.2	-17.5	-17.[illegible]	-17.7	-16.3	5.3	8.0	19.3
STD ERROR	2.6	2.5	3.3	2.9	3.5	3.2	8.2	3.6	8.8	8.2	2.8	3.3	2.7	0.9	2.8	[illegible]	8.5	7.5	2.3	3.7	11.8
REPS: 0829 NATL % 36.0 (Test for this exercise was not released)																					
UNADJ PERCT	6.8	-6.2	3.8	-2.5	3.3	-2.9	3.6	-8.5	8.6	-3.2	-2.8	8.9	-5.2	3.0	-19.4	-5.1	-16.8	-18.5	-0.2	10.5	-15.5
STD ERROR	3.3	3.2	3.8	2.5	3.8	3.3	8.5	7.3	8.3	3.8	8.5	3.6	3.3	0.8	3.5	8.[illegible]	8.3	2.6	2.3	3.8	7.5
BAL PERCT	5.8	-3.2	0.5	-8.6	3.9	-3.8	7.3	-2.2	0.2	-2.6	-3.3	6.6	-3.7	3.1	-9.9	2.[illegible]	-16.3	-13.3	-0.3	8.8	-16.5
STD ERROR	3.3	2.8	2.6	2.7	3.2	3.3	8.3	5.8	8.8	3.5	8.0	3.3	3.2	0.7	3.5	5.3	3.8	2.6	2.3	3.6	7.9
REPS: 0830 NATL % 33.3 (Test for this exercise was not released)																					
UNADJ PERCT	0.0	-5.0	-2.7	8.3	5.8	-5.8	-8.3	-10.8	18.0	-3.8	9.8	-1.2	-6.8	3.6	-23.7	-13.2	-6.2	-13.2	1.8	6.5	-0.5
STD ERROR	2.3	2.8	2.2	2.8	3.8	3.6	2.8	8.0	5.9	3.3	3.6	3.0	2.3	0.6	3.9	3.5	5.3	3.0	2.0	3.7	10.0
BAL PERCT	-3.0	0.3	-9.5	5.6	5.5	-5.0	-6.5	-3.9	10.3	-3.0	6.6	-3.5	-5.7	2.8	-16.0	-10.[illegible]	-3.8	-8.6	2.3	3.6	-8.2
STD ERROR	2.3	2.8	2.3	2.8	3.8	3.6	3.5	6.8	5.8	2.6	8.2	3.0	2.5	0.6	3.9	5.3	5.2	2.9	2.0	3.6	10.3
REPS: 0831 NATL % 30.0 (Test for this exercise was not released)																					
UNADJ PERCT	-0.3	-3.2	3.8	2.7	5.0	-8.8	0.5	-0.6	5.8	3.3	3.6	-2.8	-3.8	3.0	-6.3	3.6	-8.3	-8.8	-0.7	6.8	-8.7
STD ERROR	2.5	3.8	3.3	3.9	3.8	3.2	5.8	3.8	7.8	3.2	2.5	2.5	2.9	0.5	2.3	5.3	8.5	3.0	3.9	3.5	6.3
BAL PERCT	-0.2	-8.5	2.2	3.8	8.8	-3.9	2.6	3.8	3.9	0.3	-3.0	-3.8	-0.3	0.8	-3.2	2.3	-8.3	-7.5	-0.9	6.0	-5.2
STD ERROR	2.8	3.8	3.8	2.0	3.8	3.2	5.8	8.0	7.8	3.3	2.7	2.5	2.7	0.5	2.5	5.0	8.7	3.3	3.9	3.6	7.8
REPS: 0832 NATL % 27.9 (Test for this exercise was not released)																					
UNADJ PERCT	0.8	-3.3	-2.5	5.3	10.3	-11.7	-6.0	-13.2	8.8	-2.2	-2.7	5.0	-0.0	3.7	-19.3	-6.8	3.9	-11.7	-0.6	5.3	-6.5
STD ERROR	2.6	3.8	3.9	2.0	3.6	3.3	8.5	3.3	8.2	3.0	3.0	3.3	2.3	0.6	2.5	5.9	6.3	3.2	2.3	3.5	7.7
BAL PERCT	-0.6	-0.3	-3.5	3.3	13.3	-11.8	-8.7	-7.2	8.7	3.0	-2.6	3.8	0.3	3.9	-13.3	-6.6	3.2	-8.9	-3.3	8.3	-8.3
STD ERROR	2.3	3.2	3.9	3.8	3.6	3.2	8.3	3.0	3.6	2.6	2.7	3.0	2.3	0.5	3.8	5.[illegible]	5.8	3.3	2.0	3.5	6.2
REPS: 0833 NATL % 27.8 (Test for this exercise was not released)																					
UNADJ PERCT	-2.3	-5.3	3.8	2.3	2.0	-3.8	-3.8	-12.3	5.7	-0.0	-0.9	3.3	-8.3	3.0	-5.7	-8.7	3.8	-11.3	-0.6	8.7	-10.9
STD ERROR	2.5	3.3	2.6	2.2	3.6	3.5	5.7	8.3	8.8	3.8	3.3	3.6	2.3	0.5	3.8	8.3	7.2	2.6	2.3	3.7	5.5
BAL PERCT	-2.3	-5.6	8.2	3.8	2.0	-2.0	-2.3	-10.8	3.8	-0.3	-3.8	3.3	-3.8	0.3	-0.9	-2.8	8.2	-8.5	-3.3	3.8	-18.8
STD ERROR	2.5	2.6	2.5	3.9	3.5	3.8	8.9	8.8	8.7	2.7	3.3	3.8	2.3	0.6	3.6	5.3	6.6	2.5	2.3	3.6	6.2

EXER: 0834 NATL % 26.6 (Text for this exercise was not released)

UNADJ EFFECT	1.6	-4.9	1.8	0.7	2.7	-2.7	-3.6	-3.1	1.7	6.0	1.6	-3.5	-1.1	0.6	-8.7	2.8	-0.1	-2.3	0.0	2.5	-2.3
STD ERROR	2.1	2.8	2.3	1.8	1.3	1.2	3.7	2.8	1.8	1.3	1.1	2.3	2.8	0.6	2.7	8.7	8.5	1.2	1.9	1.8	11.3
BAL EFFECT	0.7	-3.1	1.8	-0.0	2.6	-2.6	-3.5	-2.1	0.2	5.8	2.7	-2.8	-0.1	0.1	-2.0	1.1	-8.8	-1.1	0.1	1.7	-1.1
STD ERROR	2.1	2.8	2.2	1.8	1.1	1.2	3.5	3.5	1.6	1.8	1.1	2.2	2.1	0.7	1.8	8.5	8.1	1.2	2.8	1.5	10.1

EXER: 0835 NATL % 26.1 (Text for this exercise was not released)

UNADJ EFFECT	3.6	1.0	-3.1	-0.7	3.1	-2.8	-8.5	9.5	1.2	3.1	-3.1	-0.5	-1.8	-1.8	8.9	3.6	2.8	0.2	-1.2	-0.5	18.2
STD ERROR	1.0	2.4	2.3	2.4	1.4	1.3	2.8	5.8	5.1	3.1	2.8	2.8	2.9	0.5	1.7	2.7	5.8	3.7	1.8	1.5	8.8
BAL EFFECT	3.8	0.4	-2.2	-1.7	3.3	-2.9	-8.7	6.8	2.7	3.1	-2.8	-0.2	-0.6	-1.2	7.8	1.5	3.0	-1.0	-1.0	-0.1	12.9
STD ERROR	2.7	2.5	2.3	2.4	1.3	1.2	3.1	6.5	5.6	3.2	2.8	2.8	2.9	0.7	8.8	1.5	5.2	3.8	1.7	1.6	8.9

EXER: 0836 NATL % 23.9 (Text for this exercise was not released)

UNADJ EFFECT	8.1	-7.1	0.8	0.6	2.8	-1.7	-8.8	-9.5	8.0	-0.8	-3.1	1.6	1.3	2.6	-15.9	-3.2	-18.0	-8.2	-1.5	6.2	-16.7
STD ERROR	2.2	2.0	2.0	2.5	1.8	1.1	6.1	3.1	5.3	3.8	2.7	2.8	2.8	0.5	1.9	5.3	2.6	2.7	1.6	1.8	8.5
BAL EFFECT	8.8	-5.2	0.2	-0.7	1.6	-1.3	0.1	-3.8	3.7	-0.5	-6.0	0.2	8.6	2.0	-12.3	-2.1	-12.6	-2.7	-1.5	5.8	-16.3
STD ERROR	1.9	2.5	1.8	2.4	1.2	1.0	5.8	3.2	8.9	2.9	2.8	2.2	2.3	0.6	2.2	5.3	2.8	2.7	1.5	1.8	5.0

EXER: 0837 NATL % 23.5 (Text for this exercise was not released)

UNADJ EFFECT	-1.1	3.8	-0.8	-1.5	3.9	-3.0	-2.0	3.9	-2.8	-5.5	-2.5	2.5	3.1	1.9	-10.0	-9.9	0.3	-5.1	1.8	1.8	-15.2
STD ERROR	2.6	2.8	2.1	2.1	1.3	1.1	5.0	3.3	3.8	2.8	2.9	2.7	2.5	0.5	2.5	3.9	8.8	2.6	1.8	1.3	8.8
BAL EFFECT	-0.6	8.8	-1.8	-1.9	3.2	-2.9	-2.3	9.8	-8.0	-3.8	-2.8	0.9	2.5	2.2	-12.9	-8.8	-1.0	-8.8	0.8	2.1	-11.3
STD ERROR	2.2	2.7	1.9	2.2	1.3	1.1	5.2	3.7	3.6	2.2	2.8	2.6	2.5	0.5	2.6	3.7	8.0	2.5	1.8	1.3	8.9

EXER: 0838 NATL % 22.3 (Text for this exercise was not released)

UNADJ EFFECT	3.1	3.0	-5.1	0.7	7.5	-6.8	-6.2	-9.5	18.3	-0.5	-1.9	-1.8	0.5	1.5	-7.9	-6.8	-5.2	-2.9	-2.9	8.6	-3.6
STD ERROR	3.7	3.5	2.3	2.5	1.5	1.5	3.1	3.6	8.1	2.8	2.8	2.9	3.3	0.5	3.8	2.7	8.9	3.6	2.0	1.9	10.8
BAL EFFECT	1.8	8.6	-3.9	-0.8	7.2	-6.5	-5.3	-5.6	15.1	0.5	-3.2	-1.6	1.0	1.1	-6.1	-3.9	-8.1	-0.9	-1.9	2.9	-8.7
STD ERROR	2.8	3.3	2.1	2.8	1.3	1.2	3.8	8.5	6.6	2.6	2.7	2.8	3.3	0.5	3.9	2.9	3.9	3.3	1.6	1.5	9.9

EXER: 0839 NATL % 20.9 (Text for this exercise was not released)

UNADJ EFFECT	-0.5	-3.8	1.8	1.2	8.2	-2.9	-11.8	6.6	-1.2	-1.7	0.9	-0.8	2.5	0.8	-2.2	-5.2	-9.2	3.9	1.3	0.1	-18.8
STD ERROR	2.3	2.3	2.8	2.8	1.6	1.3	3.6	8.7	3.9	3.8	2.7	2.7	2.8	0.6	3.2	5.2	3.9	3.8	1.6	1.6	3.3
BAL EFFECT	-0.5	+3.0	1.8	1.5	8.0	-3.2	-9.8	7.8	-2.3	-2.5	0.6	-1.1	3.8	0.7	-1.3	-5.3	-8.7	8.0	1.0	0.2	-18.1
STD ERROR	2.1	2.2	2.3	2.3	1.5	1.2	8.2	8.5	3.6	3.5	2.9	2.7	2.7	0.7	3.7	5.5	3.7	3.7	1.5	1.5	3.9

EXER: 0840 NATL % 20.5 (Text for this exercise was not released)

UNADJ EFFECT	-3.8	6.8	-3.3	2.5	-0.1	0.8	5.8	-3.3	-2.1	-8.2	-2.2	1.8	8.2	0.5	-1.8	-3.1	-5.0	-0.8	-0.2	1.9	-7.2
STD ERROR	1.7	3.3	1.6	1.7	1.2	1.0	3.9	2.8	3.1	2.9	1.8	1.9	3.8	0.5	2.3	5.2	3.8	3.2	2.0	1.3	8.5
BAL EFFECT	-2.9	6.1	-3.7	2.7	-0.7	0.6	5.8	-0.9	-3.6	-3.5	-1.6	0.9	3.3	0.6	-2.9	-3.0	-6.3	-1.8	0.3	2.2	-6.8
STD ERROR	1.7	3.0	1.6	1.8	1.1	0.9	3.7	3.2	3.0	2.8	1.7	1.9	3.2	0.6	3.1	8.7	3.3	2.7	1.9	1.8	8.5

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME APP. SUB	INNER SUB FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: 0841 WATL % 19.4 (Text for this exercise was not released)																					
UNADJ EFFECT	4.9	4.9	-5.9	-2.3	-0.5	-0.8	5.8	2.6	-1.4	-2.5	0.2	1.7	-0.6	-1.4	17.9	9.1	3.9	-1.5	-0.5	0.4	-3.3
STD ERROR	2.8	2.4	1.6	2.4	1.4	1.3	4.4	4.5	2.2	2.1	3.5	2.6	2.1	0.9	4.0	9.3	4.7	3.0	1.9	1.5	7.5
BAL EFFECT	5.3	1.5	-4.6	-1.4	1.1	-0.9	3.1	-1.4	-2.6	-4.0	-0.4	3.2	0.6	-3.5	17.7	10.0	2.4	-3.3	-0.1	1.2	-1.8
STD ERROR	2.4	2.6	1.8	2.7	1.3	1.1	4.0	1.9	2.5	2.6	2.6	2.4	2.1	0.9	1.8	8.7	4.0	1.2	1.8	1.4	6.7
EXER: 0842 WATL % 17.5 (Text for this exercise was not released)																					
UNADJ EFFECT	0.4	-6.0	1.2	3.5	2.1	-1.5	-2.5	-7.1	2.9	2.1	-0.1	4.8	-3.1	1.8	-9.2	-9.0	-11.2	-4.3	-1.2	4.6	-9.6
STD ERROR	2.5	2.1	2.3	2.6	1.4	1.2	3.4	2.6	4.1	3.1	2.3	3.5	2.3	0.5	2.5	3.3	2.4	2.3	1.5	1.1	4.8
BAL EFFECT	-0.6	-4.7	1.9	2.6	1.7	-1.5	-0.2	-4.0	0.7	1.7	-1.4	4.6	-2.3	1.2	-4.6	-9.0	-8.9	-2.8	-1.8	4.0	-10.5
STD ERROR	2.2	2.1	2.1	2.4	1.3	1.2	3.2	3.1	3.9	3.1	2.3	3.3	2.1	0.5	2.8	3.5	2.6	2.2	1.5	0.9	5.6
EXER: 0843 WATL % 15.6 (Text for this exercise was not released)																					
UNADJ EFFECT	-0.8	-5.8	4.3	0.9	4.6	-4.0	3.6	-5.8	-1.0	3.5	-0.8	-1.7	1.6	1.0	-1.9	-6.3	8.4	-5.8	-2.8	3.6	-13.0
STD ERROR	1.8	2.0	2.5	2.5	1.3	1.2	7.1	2.2	2.8	2.6	2.5	2.6	2.7	0.5	2.6	3.0	6.4	1.8	1.6	1.4	1.9
BAL EFFECT	0.3	-7.9	4.3	1.8	4.5	-4.1	7.2	-6.4	-2.9	1.8	-1.7	-1.4	2.7	0.3	1.5	-9.1	10.2	-5.2	-3.3	3.1	-12.1
STD ERROR	1.7	2.3	2.3	2.6	1.2	1.1	6.5	2.1	3.0	2.7	2.6	2.7	2.7	0.7	2.5	4.8	6.1	1.9	1.6	1.4	2.7
EXER: 0844 WATL % 15.6 (Text for this exercise was not released)																					
UNADJ EFFECT	1.1	-2.6	-1.1	2.6	3.4	2.7	0.7	-5.8	5.5	1.2	-2.3	1.7	-0.8	1.5	-6.7	-6.8	-8.9	8.3	0.6	3.2	-5.5
STD ERROR	1.9	2.1	1.6	2.0	1.0	0.9	5.8	2.2	3.3	2.9	2.1	2.4	1.7	0.4	2.4	3.2	1.9	1.9	1.4	1.3	4.9
BAL EFFECT	1.2	-1.7	-1.1	1.6	2.8	-2.8	1.5	-3.0	3.3	0.9	-3.1	1.0	0.3	1.0	-1.8	-5.8	-8.1	-2.8	1.1	2.1	-5.0
STD ERROR	2.1	2.3	1.6	2.3	1.0	0.8	5.7	2.3	3.2	3.2	2.1	2.4	1.8	0.4	2.3	3.2	2.0	1.9	1.3	1.3	5.7
EXER: 0845 WATL % 14.8 (Text for this exercise was not released)																					
UNADJ EFFECT	0.2	-0.2	1.2	-1.6	5.5	-4.3	-2.5	1.5	-0.0	-0.1	1.9	3.2	-5.5	0.4	-1.6	-2.2	-7.4	-2.3	2.9	0.7	-6.8
STD ERROR	1.8	2.1	1.7	1.7	1.0	0.8	4.1	1.6	2.9	2.3	2.2	2.6	1.8	0.4	3.0	3.1	2.8	1.9	1.6	1.0	4.1
BAL EFFECT	-1.2	2.3	1.0	-2.1	5.1	-4.2	-4.5	4.5	-0.2	0.5	2.1	2.4	-5.0	0.2	-1.9	0.5	-6.9	-1.6	2.7	0.4	-6.7
STD ERROR	1.7	2.3	1.7	1.6	1.0	0.8	4.1	1.8	2.8	2.4	2.0	2.4	1.9	0.5	3.2	3.8	3.0	1.7	1.6	0.9	4.0
EXER: 0846 WATL % 12.9 (Text for this exercise was not released)																					
UNADJ EFFECT	-1.5	-3.0	-1.3	6.3	4.8	-4.1	2.3	-3.1	1.0	-2.1	1.6	6.2	-6.1	1.1	-5.8	-2.8	-7.3	-0.4	-1.3	2.0	4.8
STD ERROR	1.9	1.9	1.5	1.8	1.2	1.0	4.3	1.3	2.5	2.5	2.1	2.9	1.4	0.5	2.6	3.0	2.6	2.6	1.4	1.3	5.3
BAL EFFECT	-2.5	-1.4	-0.9	5.4	4.6	-3.7	3.5	-1.2	-0.5	-1.4	1.9	5.3	-5.0	0.8	-3.1	-3.5	-6.3	1.7	-1.3	1.0	4.8
STD ERROR	1.9	2.1	1.4	1.7	1.1	0.9	4.2	1.4	2.4	2.3	2.1	2.6	1.5	0.5	2.7	3.1	2.7	2.5	1.4	1.2	5.4
EXER: 0847 WATL % 12.2 (Text for this exercise was not released)																					
UNADJ EFFECT	4.3	-6.0	2.4	-3.1	2.4	-2.2	5.4	-4.0	-1.9	-2.6	1.5	0.3	1.5	1.1	-6.3	-7.3	-9.4	0.9	1.3	1.0	-3.5
STD ERROR	2.7	1.6	2.0	1.6	1.0	1.0	8.4	2.3	3.0	1.8	2.1	2.2	3.6	0.3	1.8	2.4	1.7	1.7	1.6	1.3	3.7
BAL EFFECT	4.2	-6.0	1.9	-2.3	1.9	-1.8	8.7	-7.5	-2.8	-2.4	0.6	0.1	1.7	0.6	-2.5	-6.7	-8.5	1.0	0.7	1.0	-0.5
STD ERROR	2.6	2.0	1.9	1.5	1.0	0.9	8.6	2.6	2.5	1.7	2.0	2.1	3.4	0.3	2.1	3.0	2.1	3.2	1.6	1.1	4.2

EXPR: 0848 NATL % 11.5 (Text for this exercise was not released)

UNADJ EFFECT	1.8	0.5	-1.3	-2.6	1.6	-1.4	-1.9	-2.3	5.9	0.3	-1.9	1.3	0.2	0.1	0.2	-2.5	-0.9	-2.8	-1.6	2.6	-4.8
STD ERROR	1.8	1.6	1.2	1.3	0.9	0.8	3.5	2.3	5.3	2.0	1.5	2.1	1.8	0.4	1.9	2.5	3.5	1.7	1.2	1.1	3.3
BAL EFFECT	3.9	0.2	-0.9	-2.9	1.5	-1.4	0.1	-2.3	5.2	0.2	-2.3	0.7	0.7	-0.3	2.1	-1.0	-1.1	-2.8	-1.6	2.6	-4.6
STD ERROR	1.8	1.9	1.3	1.3	0.9	0.8	3.7	2.5	5.2	1.9	1.6	2.3	1.6	0.4	2.0	2.6	3.5	1.6	1.2	1.2	3.3

EXPR: 0849 NATL % 7.5 (Text for this exercise was not released)

UNADJ EFFECT	3.1	-1.0	-1.4	-0.4	3.0	-3.0	-2.6	0.6	-1.7	2.1	-2.5	2.1	0.9	0.6	-2.3	-2.3	-4.3	0.8	-1.0	1.5	-3.6
STD ERROR	1.8	1.3	1.4	1.6	0.8	0.8	2.3	1.5	2.4	1.4	1.4	2.1	1.5	0.3	1.6	2.6	1.8	1.7	1.1	0.9	1.4
BAL EFFECT	3.0	-1.0	-1.2	-0.4	2.9	-2.9	-1.3	2.0	-3.1	1.6	-3.3	1.8	1.4	0.4	-1.6	-2.1	-4.1	0.5	-1.2	1.7	-1.4
STD ERROR	1.6	1.3	1.3	1.6	0.8	0.8	2.3	2.0	2.4	1.5	1.5	1.9	1.5	0.4	2.0	2.4	1.5	1.8	1.1	0.9	1.5

EXPR: 0850 NATL % 4.8 (Text for this exercise was not released)

UNADJ EFFECT	0.1	-3.2	2.4	-0.5	-0.3	0.3	0.2	-1.0	-1.8	2.3	1.6	0.2	-1.5	0.3	-2.5	-0.3	0.8	-1.9	1.7	-0.6	1.6
STD ERROR	0.9	0.8	1.3	1.0	0.4	0.4	2.1	2.2	1.2	1.2	1.3	2.4	1.2	0.2	0.4	2.5	1.4	0.9	1.2	0.6	1.4
BAL EFFECT	0.1	-2.8	2.2	-0.8	-0.3	0.3	-0.3	-0.8	-1.8	2.4	0.9	0.3	-0.9	0.2	-1.8	-0.3	0.9	-1.7	1.4	-0.5	1.3
STD ERROR	0.9	0.8	1.3	1.0	0.4	0.4	2.0	2.4	1.2	1.2	1.3	2.2	1.2	0.2	1.1	2.6	1.5	0.9	1.1	0.6	1.5

EXPR: 0851 NATL % 3.6 (Text for this exercise was not released)

UNADJ EFFECT	2.4	-0.4	-1.9	0.3	1.6	-1.6	-2.3	-0.3	3.2	0.3	1.0	0.9	-1.9	0.0	0.3	-1.4	-2.5	-1.9	-0.3	1.7	-1.6
STD ERROR	1.2	1.0	0.6	1.0	0.5	0.5	0.8	1.0	2.4	1.5	1.1	1.4	0.8	0.2	1.3	0.9	0.7	0.7	0.8	0.7	0.5
BAL EFFECT	2.1	0.3	-1.6	-0.4	1.6	-1.6	-1.1	-0.5	2.4	0.1	0.6	0.8	-1.5	-0.3	2.2	-1.4	-2.4	-1.9	-0.2	1.7	-2.9
STD ERROR	1.1	1.0	0.6	0.9	0.5	0.5	0.9	1.1	2.3	1.6	1.2	1.4	0.8	0.1	1.4	1.2	0.8	0.8	0.7	0.7	0.6

OBJECTIVE: Possess the ability and skills needed to engage in the processes of science.

EXPR: 0852 NATL % 73.1 (Text for this exercise was not released)

UNADJ EFFECT	8.0	-8.8	-4.0	3.8	7.0	-7.3	-5.0	-6.5	1.3	0.5	8.0	-3.2	-1.6	3.7	-35.7	8.9	-11.1	-8.4	-2.5	7.4	-0.5
STD ERROR	3.4	5.7	3.5	3.5	2.1	3.2	7.9	5.5	6.4	4.8	3.7	4.8	5.0	1.9	5.7	8.1	11.1	5.4	3.6	2.9	12.8
BAL EFFECT	6.4	-1.5	-4.4	1.0	5.8	-6.1	0.0	6.5	-5.1	0.6	5.4	-5.3	-1.1	3.2	-33.4	13.8	-9.3	-5.4	-2.7	6.3	-7.1
STD ERROR	6.7	5.4	3.2	3.1	2.5	2.8	14.6	6.0	5.5	5.0	3.6	4.0	4.1	0.9	5.4	4.4	16.8	5.3	3.5	2.4	11.3

EXPR: 0853 NATL % 65.0 (Text for this exercise was not released)

UNADJ EFFECT	4.2	-8.1	1.2	0.6	3.3	-2.7	-25.6	-8.5	16.8	-3.6	-0.4	9.9	-6.5	2.9	-17.0	-16.4	-18.5	-19.2	4.4	18.6	-39.7
STD ERROR	3.1	3.9	3.1	2.7	1.8	1.7	6.0	10.6	5.0	4.3	4.4	3.4	3.3	0.9	5.0	6.8	6.9	3.7	2.1	1.8	8.8
BAL EFFECT	1.4	-1.4	1.0	-1.7	1.6	-1.5	-16.7	0.9	11.0	-2.9	-2.0	6.6	-5.5	1.6	-10.9	-5.4	-12.1	-15.4	4.9	12.2	-40.1
STD ERROR	2.3	3.8	2.7	2.1	1.3	1.3	4.8	8.7	3.6	3.7	3.5	2.9	2.8	0.8	5.7	6.2	6.6	3.2	1.9	1.4	7.7

EXPR: 0854 NATL % 64.1 (Text for this exercise was not released)

UNADJ EFFECT	-4.9	-6.6	-0.1	9.5	1.4	-5.6	-18.6	-21.2	7.7	-2.5	1.7	8.9	4.4	5.1	-27.9	-44.5	-23.6	-11.3	-4.4	12.3	-18.4
STD ERROR	3.4	4.7	3.7	2.4	2.2	2.3	8.3	7.6	5.3	5.3	4.3	3.4	4.2	1.0	5.8	7.3	9.4	5.6	3.5	2.3	16.4
BAL EFFECT	-5.4	-7.9	-1.0	8.9	5.1	-4.9	-8.9	-9.9	2.4	-4.6	-1.2	7.0	4.1	3.3	-15.4	-38.1	-9.9	-4.2	-4.7	4.7	-19.2
STD ERROR	3.2	4.6	3.3	2.7	2.1	2.2	7.3	8.1	5.0	5.4	4.0	3.4	4.3	1.1	7.3	6.0	8.5	5.4	3.4	2.3	19.9

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME APP SUB	INNER PRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXPR: 0855 NATL % 62.7 (Text for this exercise was not released)																					
UNADJ EFFECT	6.0	-9.9	1.5	-1.4	2.9	-2.2	-1.9	-11.1	10.5	5.7	3.8	4.0	-8.1	5.6	-23.5	-15.6	-9.9	-10.3	-0.2	9.7	-28.7
STD ERROR	3.7	3.8	2.6	2.9	1.6	1.4	8.4	8.7	4.5	3.2	2.7	3.3	2.4	1.1	3.9	6.3	6.6	3.0	2.1	1.8	4.9
BAL EFFECT	4.3	-4.8	1.6	-2.1	1.5	-1.4	7.1	-1.4	5.9	4.6	0.9	1.1	-7.9	4.8	-19.0	-15.2	-7.5	-5.8	-0.6	7.2	-29.7
STD ERROR	3.3	3.5	2.5	2.6	1.5	1.4	6.0	4.4	4.1	3.1	2.5	3.1	2.4	1.1	4.4	6.7	6.1	1.0	2.1	1.8	6.8
EXPR: 0856 NATL % 60.1 (Text for this exercise was not released)																					
UNADJ EFFECT	1.1	-9.5	1.1	5.1	1.6	-1.5	-10.5	-17.9	8.9	-4.3	3.1	2.5	4.2	4.1	-27.2	-20.1	-11.2	-9.8	-7.0	10.9	-18.3
STD ERROR	1.3	5.4	3.2	2.7	2.0	2.0	8.5	6.8	6.2	4.8	4.7	4.7	4.6	0.9	5.5	18.0	9.7	5.4	3.5	2.5	16.2
BAL EFFECT	0.9	-5.7	0.1	3.7	1.3	-1.2	-3.0	-7.0	3.5	-5.8	1.0	0.3	4.5	2.9	-19.4	-17.3	-1.9	-5.3	-7.4	8.2	-16.7
STD ERROR	1.6	5.5	3.3	3.4	2.2	2.1	8.7	8.4	6.3	4.9	5.1	4.9	4.6	1.0	6.9	21.0	8.9	5.2	3.5	2.5	19.2
EXPR: 0857 NATL % 55.6 (Text for this exercise was not released)																					
UNADJ EFFECT	-1.7	-7.3	1.1	6.7	1.4	-1.0	-20.6	-17.4	10.6	-0.4	7.6	1.6	-2.8	1.1	-21.7	-8.1	-7.1	-15.4	0.9	9.0	-18.2
STD ERROR	1.4	1.2	2.4	2.8	1.9	1.8	9.2	7.2	5.6	2.1	3.7	3.0	3.9	0.8	4.3	11.2	7.0	1.8	2.2	1.8	7.3
BAL EFFECT	-2.9	-1.6	-6.0	4.8	0.4	-0.4	-16.9	-7.6	7.4	-0.5	6.5	-0.1	-2.3	2.3	-17.3	-4.2	-3.9	-11.2	0.5	6.9	-41.3
STD ERROR	1.0	1.3	3.2	3.6	1.6	1.5	9.0	9.6	5.4	2.7	3.7	2.6	3.6	0.7	5.6	8.5	6.8	1.5	2.5	1.7	7.3
EXPR: 0858 NATL % 49.5 (Text for this exercise was not released)																					
UNADJ EFFECT	2.7	-11.0	4.4	5.9	5.7	-3.9	-2.2	-4.5	0.4	-5.4	6.4	3.9	-1.7	3.7	-19.7	-12.9	-19.7	-14.3	5.1	7.1	-15.3
STD ERROR	1.8	3.3	2.2	2.2	1.5	1.2	5.0	4.0	5.0	3.4	3.9	3.7	3.2	0.9	3.1	7.3	5.5	1.1	2.3	1.9	10.4
BAL EFFECT	1.3	-6.9	-8.6	5.2	3.8	-3.1	-0.1	-2.3	-6.0	-6.0	4.0	1.7	2.4	2.7	-12.5	-13.6	-16.4	-11.8	4.8	5.7	-14.9
STD ERROR	3.1	3.5	2.8	2.6	1.4	1.1	5.2	3.4	4.8	3.3	3.1	3.8	2.9	1.0	1.8	9.1	5.5	3.5	2.3	1.9	10.2
EXPR: 0859 NATL % 34.9 (Text for this exercise was not released)																					
UNADJ EFFECT	4.5	-6.4	-4.9	6.6	8.7	-9.2	-9.9	-18.8	0.1	2.8	6.6	2.1	1.2	2.2	-18.4	-1.9	-18.6	-6.6	2.8	4.6	5.5
STD ERROR	4.5	4.7	4.1	4.7	1.8	2.7	6.5	5.7	7.6	6.6	4.5	4.9	4.8	1.5	4.9	11.5	5.5	5.5	3.5	3.2	16.5
BAL EFFECT	2.1	-3.0	-4.1	5.4	8.2	-8.7	-6.9	-13.6	-1.8	2.6	5.1	1.8	1.6	0.9	-9.7	3.6	-15.9	-1.5	2.7	2.4	6.5
STD ERROR	4.6	5.8	3.7	4.5	2.1	2.4	7.5	6.9	7.0	6.5	4.3	4.6	5.8	0.8	6.3	12.0	11.2	5.4	3.3	3.3	15.1
EXPR: 0860 NATL % 38.1 (Text for this exercise was not released)																					
UNADJ EFFECT	-4.4	-2.1	0.4	5.6	1.7	-1.7	0.8	-1.8	1.0	-1.1	0.9	1.7	-1.5	2.7	-16.0	-20.0	-10.6	-9.8	-5.9	9.0	18.8
STD ERROR	4.1	3.6	3.6	3.9	2.1	2.1	6.4	5.2	6.7	4.5	4.4	4.3	5.6	0.7	3.9	5.7	7.7	5.6	3.4	2.5	18.2
BAL EFFECT	-3.9	0.4	-0.5	4.2	0.8	-0.8	7.8	6.0	-3.9	-1.9	-0.4	-1.1	-1.6	2.4	-12.9	-22.6	-8.3	-7.9	-6.3	8.2	17.1
STD ERROR	3.9	3.4	3.5	4.1	2.2	2.1	5.8	5.8	6.5	4.3	4.1	4.4	5.4	0.8	4.5	6.9	6.8	5.7	3.5	2.8	18.0
EXPR: 0861 NATL % 29.2 (Text for this exercise was not released)																					
UNADJ EFFECT	10.9	-15.5	-3.2	4.8	7.4	-7.8	-16.7	-7.3	11.2	0.4	0.9	-0.8	4.2	3.3	-22.4	-13.5	-21.1	-13.8	1.9	10.1	-20.6
STD ERROR	5.6	3.5	3.3	4.6	2.3	2.4	6.6	5.7	9.4	5.2	4.3	5.1	6.2	0.7	3.6	6.7	4.2	4.3	4.0	3.1	5.2
BAL EFFECT	9.2	-11.4	-3.1	3.4	5.8	-6.1	-7.2	1.7	3.2	-1.8	-2.0	-1.6	5.8	2.1	-15.5	-5.8	-18.6	-9.5	1.6	8.1	-26.2
STD ERROR	5.8	3.9	3.2	4.5	2.1	2.2	8.1	5.3	9.4	5.1	4.2	4.8	5.8	0.5	3.8	6.4	4.3	4.0	3.8	2.9	6.7

EXER: 0862 NATL % 25.6 (Text for this exercise was not released)

UNADJ EFFECT	3.4	0.4	2.1	-6.7	2.8	-2.9	-1.2	-1.4	1.1	-7.8	3.3	2.3	-1.0	-0.5	0.3	9.5	-10.1	3.7	3.8	-1.3	-8.8
STD ERROR	3.9	4.5	3.2	3.1	2.0	2.1	5.9	5.4	6.1	3.7	4.3	3.3	4.7	0.8	5.0	11.5	5.4	5.3	3.5	2.2	12.5
BAL EFFECT	2.9	0.6	2.8	-6.9	3.1	-3.2	-1.2	-3.2	3.6	-5.6	3.0	1.8	-1.8	-1.0	2.7	14.9	-10.3	2.9	2.9	-0.5	-7.9
STD ERROR	4.0	4.6	3.4	3.1	1.9	2.0	7.2	5.7	6.3	3.8	4.2	3.2	4.9	0.8	5.4	11.8	5.5	5.6	3.5	2.4	12.9

EXER: 0863 NATL % 24.8 (Text for this exercise was not released)

UNADJ EFFECT	1.5	-9.8	1.6	4.3	0.6	-0.6	-8.0	-9.8	5.1	1.9	-0.1	-0.6	4.9	1.6	-12.7	0.4	-5.0	-13.7	-3.9	9.4	-24.8
STD ERROR	1.4	3.5	3.3	3.7	1.9	1.9	8.5	5.0	6.8	4.8	4.8	4.6	5.3	0.9	4.3	21.6	11.1	3.9	2.3	2.4	2.1
BAL EFFECT	1.6	-7.9	1.0	3.4	0.7	-0.6	-2.7	-5.8	1.3	-0.7	-1.8	-1.4	6.9	0.2	-2.9	5.0	-2.0	-12.7	-3.6	8.5	-21.2
STD ERROR	1.5	4.1	1.4	4.2	1.9	1.9	8.0	5.8	7.2	5.0	4.9	4.8	4.5	0.9	5.1	22.2	9.7	3.9	2.3	2.3	6.0

EXER: 0864 NATL % 22.0 (Text for this exercise was not released)

UNADJ EFFECT	3.3	-1.4	-1.8	1.5	11.8	-9.8	1.2	-2.5	5.7	-0.4	-0.9	-0.0	-2.0	1.5	-8.6	-6.2	-13.4	-9.4	2.1	5.1	-10.0
STD ERROR	2.8	2.0	2.4	2.5	1.5	1.1	3.9	2.6	4.4	4.1	2.7	2.9	2.8	0.5	2.4	5.2	2.5	1.7	1.7	1.3	5.4
BAL EFFECT	2.5	-0.8	-1.3	0.2	11.1	-9.6	3.4	2.4	2.1	-0.1	-2.0	-0.8	-0.8	1.1	-5.1	-6.1	-13.3	-7.7	1.1	4.8	-6.9
STD ERROR	2.2	1.8	2.3	2.5	1.4	1.1	3.6	2.2	3.7	1.6	2.5	2.7	2.9	0.5	2.4	5.6	3.1	1.7	1.6	1.3	4.6

EXER: 0865 NATL % 20.6 (Text for this exercise was not released)

UNADJ EFFECT	2.3	-4.4	3.1	-2.1	2.5	-2.7	-3.8	-4.7	0.1	11.1	-1.0	-1.3	-0.2	0.7	-1.8	-0.5	-10.4	-0.4	-0.5	2.6	11.9
STD ERROR	2.6	2.5	2.1	1.7	1.3	1.1	4.9	2.2	3.2	5.3	1.9	2.4	2.9	0.5	3.4	5.3	3.8	2.7	1.7	1.3	9.6
BAL EFFECT	2.2	-2.9	3.2	-3.4	2.0	-1.8	-2.2	-4.0	-1.4	10.6	-2.3	-0.9	0.5	0.3	-2.1	1.1	-9.6	-0.2	-0.6	2.4	13.1
STD ERROR	2.5	2.5	2.2	1.8	1.2	1.1	5.4	2.6	3.0	5.1	2.0	2.3	2.8	0.6	3.0	5.2	3.8	2.6	1.8	1.4	9.6

OBJECTIVE: Understand the investigative nature of science.

EXER: 0866 NATL % 10.9 (Text for this exercise was not released)

UNADJ EFFECT	6.1	-8.9	-1.1	3.6	1.4	-1.4	-11.8	-10.8	26.2	3.6	-1.6	3.0	-4.2	3.0	-16.7	-1.7	-11.5	-14.6	-1.4	10.4	-15.8
STD ERROR	2.2	2.1	2.3	3.4	1.6	1.6	4.0	3.6	4.4	4.0	2.9	2.5	3.7	0.8	2.3	5.7	4.7	2.2	2.0	1.4	5.0
BAL EFFECT	4.2	-5.3	-0.6	1.6	0.7	-0.7	-7.9	-4.2	20.2	2.0	-5.1	2.0	-1.8	1.8	-8.9	-3.6	-9.8	-10.7	-0.0	7.3	-12.7
STD ERROR	2.1	2.3	2.4	2.3	1.4	1.4	3.9	4.0	4.6	3.6	2.7	2.4	3.5	0.7	2.9	4.4	4.3	2.3	1.9	1.5	5.0

EXER: 0867 NATL % 18.5 (Text for this exercise was not released)

UNADJ EFFECT	-0.3	2.6	-0.1	-1.9	1.5	-1.3	-10.6	4.1	6.5	-3.2	3.5	1.9	-4.0	0.9	-3.0	-9.1	2.6	-2.5	-2.1	1.8	1.3
STD ERROR	2.2	2.6	1.9	2.1	1.8	1.8	2.8	6.3	4.0	2.2	4.3	3.5	2.4	0.5	1.7	3.5	5.6	3.4	1.9	1.4	8.3
BAL EFFECT	-1.4	1.4	0.4	-2.0	1.5	-1.4	-11.0	5.9	5.9	-2.1	3.3	1.4	-4.2	0.9	-3.7	-6.8	1.3	-0.8	-2.3	0.9	3.3
STD ERROR	2.2	2.8	2.2	2.0	1.6	1.6	3.0	6.3	4.2	2.2	4.3	3.5	2.6	0.6	4.3	3.6	5.4	3.0	1.9	1.4	7.4

EXER: 0868 NATL % 4.9 (Text for this exercise was not released)

UNADJ EFFECT	2.7	-1.4	-1.0	-0.6	0.4	-0.4	-1.8	-1.5	7.6	-1.2	-1.5	1.4	-2.9	0.3	-0.8	-4.0	-3.9	-3.8	-2.3	3.7	5.0
STD ERROR	2.8	1.5	1.6	1.4	1.1	1.0	2.0	1.8	6.0	1.7	1.5	2.3	1.3	0.3	1.8	1.3	1.3	1.2	1.3	1.4	5.1
BAL EFFECT	2.1	-0.7	-0.5	-1.2	0.1	-0.1	0.1	-0.9	6.0	-1.2	-1.1	0.6	-2.3	0.1	0.5	-2.7	-3.9	-3.0	-2.0	3.2	5.4
STD ERROR	2.2	1.4	1.5	1.6	0.9	0.9	1.7	1.7	5.3	1.8	1.3	2.3	1.2	0.2	1.6	1.3	1.2	0.8	1.0	1.1	5.0

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF.SUB.	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
OBJECTIVE: Have attitudes about and appreciation of scientists, science, and the consequences of science that stem from adequate understandings.																					
EXER: 0869 NATL % 9.4 (Text for this exercise was not released)																					
UNADJ EFFECT	2.8	-0.9	-1.4	-0.3	3.5	-3.5	-4.3	-4.1	3.0	2.1	3.3	-1.0	-0.3	0.5	-3.2	0.5	4.4	-3.5	-3.4	2.8	-5.0
STD ERROR	1.6	1.6	1.3	1.3	1.0	1.0	1.8	1.2	4.0	2.4	2.1	1.5	1.6	0.3	1.5	3.9	4.7	1.4	1.1	1.0	2.4
BAL EFFECT	1.8	0.3	-0.8	-1.1	3.7	-3.7	-3.7	-3.0	1.3	1.8	3.0	-1.2	0.3	-0.1	-0.1	1.6	5.2	-3.1	-3.5	2.5	-4.3
STD ERROR	1.5	1.6	1.3	1.3	0.9	0.9	2.3	1.5	4.0	2.5	2.1	1.5	1.6	0.4	1.9	3.9	4.6	1.4	1.1	1.2	2.8
EXER: 0870 NATL % 5.1 (Text for this exercise was not released)																					
UNADJ EFFECT	1.1	0.6	-0.9	-0.6	2.6	-2.4	3.1	8.7	0.7	-1.3	-1.6	-0.6	-2.4	-0.1	0.8	-2.3	-1.7	2.1	-0.1	-0.4	-1.6
STD ERROR	2.0	1.0	1.0	1.3	0.9	0.8	1.7	7.0	2.3	1.1	0.9	1.0	0.9	0.3	1.8	2.3	1.4	2.6	0.9	0.8	3.5
BAL EFFECT	0.6	1.3	-1.1	-0.3	2.5	-2.3	3.0	9.5	0.4	-0.9	-1.9	-0.6	-2.4	0.3	-1.9	-1.4	-2.0	1.7	0.0	-0.2	-3.[illegible]
STD ERROR	1.6	0.9	1.0	1.3	0.8	0.7	1.7	7.3	2.5	1.1	1.1	1.0	0.9	0.5	2.9	2.8	1.5	2.2	0.9	0.8	4.0
AGE ADULT																					
OBJECTIVE: Know fundamental facts and principles of science.																					
EXER: 8401 NATL % 95.3 Identify groups of animals and plants which would be found in a desert community.																					
UNADJ EFFECT	2.4	-6.1	-0.8	2.3	1.1	-1.0	-1.0	-5.7	2.1	-4.7	4.3	0.9	-5.7	2.4	-18.0	-8.3	-4.5	2.3	0.9	3.9	-10.3
STD ERROR	0.9	2.2	1.4	1.1	0.9	0.8	2.0	3.7	1.4	4.2	0.8	1.3	2.2	0.6	4.4	8.8	1.5	1.0	1.2	0.9	5.0
BAL EFFECT	2.5	-2.4	-2.4	1.9	0.8	-0.8	-1.1	0.6	-0.3	-5.1	3.6	1.4	-5.2	2.2	-16.6	-6.9	-2.0	3.1	0.1	1.4	-8.1
STD ERROR	1.0	1.5	1.1	1.2	0.8	0.7	2.0	3.6	1.7	3.5	1.0	1.1	1.9	0.6	4.2	8.6	1.3	1.5	1.2	0.9	4.3
EXER: 8402 NATL % 91.3 The sex of a human baby is determined by chromosomes.																					
UNADJ EFFECT	1.0	-8.1	1.6	1.2	-1.8	1.6	-6.0	-14.5	8.3	-2.0	1.6	-1.0	-0.9	3.4	-23.9	-13.6	-5.0	-1.5	3.5	7.0	-20.7
STD ERROR	1.6	3.0	1.7	1.5	1.1	0.9	4.7	5.6	1.1	3.5	1.9	2.6	2.2	0.7	4.6	9.8	2.1	2.8	2.2	1.2	6.4
BAL EFFECT	-0.3	-4.5	1.0	2.8	-1.8	1.7	-4.8	-3.2	5.6	0.3	-0.3	-1.4	-0.6	2.9	-19.7	-12.8	-2.0	0.7	1.6	3.4	-15.4
STD ERROR	1.4	2.8	1.5	1.4	1.0	0.9	4.3	5.9	1.3	3.4	1.8	2.5	2.2	0.7	4.4	10.9	2.1	2.7	2.1	1.1	5.7
EXER: 8403 NATL % 84.7 The movement and characteristics of air masses are important in predicting weather.																					
UNADJ EFFECT	-1.3	-4.4	0.6	7.5	4.9	-4.5	-4.5	-14.8	5.5	-5.1	0.7	4.3	-2.7	4.7	-31.1	-36.3	-6.8	6.3	2.1	6.4	-29.8
STD ERROR	2.2	3.6	2.1	2.0	1.9	2.0	5.4	5.8	2.4	6.4	3.1	2.1	3.1	1.0	6.7	10.1	2.2	2.3	2.7	2.0	6.5
BAL EFFECT	-1.6	-3.4	-1.5	7.2	4.0	-3.6	-4.6	-3.9	1.3	-4.4	-1.1	5.9	-2.9	4.2	-27.7	-34.4	-2.4	8.4	0.8	1.2	-24.6
STD ERROR	2.0	3.3	1.9	2.0	1.9	1.9	5.1	6.1	2.8	6.7	2.9	1.6	2.8	1.0	6.8	9.5	2.4	2.8	2.4	2.2	5.6
EXER: 8404 NATL % 78.7 A malady that cannot be inherited is whooping cough.																					
UNADJ EFFECT	1.7	-13.1	2.6	4.8	-2.0	1.9	2.9	-17.6	11.8	0.3	1.7	-7.5	2.6	2.7	-17.7	-11.9	-10.2	3.3	-1.8	11.2	-6.5
STD ERROR	3.5	3.7	2.4	3.1	1.9	1.8	4.5	6.3	2.9	4.4	2.6	3.8	3.2	0.6	5.3	10.1	3.4	4.1	4.2	2.9	7.8
BAL EFFECT	1.4	-10.3	1.8	3.9	-2.9	2.7	5.4	-9.4	6.6	2.2	-0.7	-7.0	5.1	1.9	-10.9	-12.8	-7.2	2.9	-1.5	7.5	-3.0
STD ERROR	3.1	4.0	2.4	2.9	2.0	1.9	4.2	6.3	3.0	4.4	2.6	3.6	2.9	0.6	5.0	10.0	3.8	4.1	4.1	3.2	8.6

EXER: 8405 NATL % 70.5 Sterilizing an adult human male by "tying off" his main sperm ducts will not impair his health.

UNADJ EFFECT	-5.1	-7.7	10.0	-1.9	-2.2	1.9	-9.5	-26.4	19.4	-12.0	9.4	1.8	-3.7	6.9	-35.9	-17.1	-16.2	0.1	15.4	11.8	-42.4
STD ERROR	4.0	4.3	2.8	4.2	2.5	2.1	5.2	8.7	3.9	7.4	1.4	3.9	4.6	1.3	5.9	12.6	3.5	4.4	2.8	3.2	8.3
BAL EFFECT	-6.0	-2.8	7.2	-1.3	-2.7	2.3	-8.8	-5.6	11.8	-7.1	1.1	2.3	-2.7	5.0	-26.1	-12.2	-11.3	0.6	11.4	7.7	-33.5
STD ERROR	3.4	3.3	2.7	3.6	2.2	1.8	5.7	7.9	3.4	8.8	3.3	3.5	4.0	1.2	6.0	11.5	3.3	3.9	2.6	3.1	7.6

EXER: 8406 NATL % 69.4 Adrenaline acts as a stimulant to the heart.

UNADJ EFFECT	3.2	-10.6	-2.0	7.6	-2.6	2.4	-23.5	-20.7	14.3	-7.2	7.2	0.9	-8.2	5.5	-33.2	-36.8	-19.3	-0.7	9.2	15.2	-19.0
STD ERROR	3.7	4.4	3.2	3.9	2.0	1.8	6.3	7.6	3.9	7.1	3.6	3.4	4.4	1.0	6.1	11.8	3.6	4.4	3.1	3.0	8.7
BAL EFFECT	2.7	-4.8	-4.1	6.2	-1.9	1.7	-19.1	-1.9	8.3	-6.5	2.0	2.1	-3.9	4.4	-26.8	-27.8	-12.8	1.0	6.2	9.5	-14.4
STD ERROR	2.9	4.3	3.1	3.8	1.9	1.7	5.9	6.9	3.5	7.1	4.0	3.1	4.4	1.0	6.2	13.1	3.6	4.1	3.0	3.4	7.6

EXER: 8407 NATL % 68.1 In mammals sperm is produced by the testes.

UNADJ EFFECT	1.7	-5.9	1.7	-1.7	-1.4	1.3	-2.6	-25.9	22.0	-18.5	9.7	-3.8	-4.5	5.0	-34.1	-18.1	-17.0	-1.6	7.5	22.1	-38.9
STD ERROR	4.5	5.5	3.2	4.5	2.0	1.8	6.5	5.9	3.0	7.7	3.3	4.5	4.4	0.9	4.2	9.7	3.1	3.7	3.0	2.7	7.9
BAL EFFECT	0.4	0.3	2.2	-3.7	-1.4	1.3	2.4	-15.8	18.4	-13.6	4.1	-1.3	-1.9	2.3	-18.4	-2.2	-14.4	-0.3	6.0	18.1	-31.4
STD ERROR	2.8	4.4	2.8	3.8	1.9	1.8	5.3	5.1	3.2	7.7	3.3	4.1	4.4	0.8	4.7	9.0	3.0	3.3	3.0	3.0	7.3

EXER: 8408 NATL % 64.3 The purpose of a fuse in an electrical circuit is to prevent possible damage to the circuit.

UNADJ EFFECT	-1.2	-1.7	-0.5	5.3	16.7	-15.5	9.3	-11.2	-0.9	-1.5	-0.3	-1.0	4.4	2.8	-21.8	-3.0	-3.9	-1.4	0.1	3.1	7.4
STD ERROR	3.1	3.3	2.9	3.5	2.1	2.1	5.7	7.8	6.4	5.4	3.2	2.8	3.9	0.8	5.1	12.1	3.2	3.9	3.8	3.4	7.9
BAL EFFECT	2.3	-0.6	-2.6	1.7	16.9	-15.8	7.2	-1.5	-1.5	-1.8	-2.9	1.3	4.0	2.9	-20.3	-8.5	0.6	-1.0	-3.3	1.8	6.6
STD ERROR	2.9	3.1	2.3	3.3	2.0	1.9	5.0	8.1	6.4	5.1	3.5	2.8	3.3	0.9	6.1	9.0	3.3	3.8	3.3	3.3	7.5

EXER: 8409 NATL % 62.5 The idea of natural selection is usually associated with Darwin's theory of evolution.

UNADJ EFFECT	5.1	-13.7	0.1	4.6	2.0	-1.8	-30.7	-25.8	21.0	-2.5	9.3	-2.2	-12.0	4.2	-31.3	-11.5	-13.0	-14.6	7.4	21.1	-31.0
STD ERROR	4.9	4.4	4.3	4.8	2.0	1.8	5.8	7.0	3.6	7.9	3.3	4.6	4.5	0.9	5.6	15.2	4.3	4.9	3.8	3.6	7.5
BAL EFFECT	2.1	-4.2	-0.4	1.3	2.2	-1.9	-28.1	-9.7	12.1	-1.8	8.0	-0.8	-10.1	2.3	-19.2	-3.0	-9.4	-11.4	5.2	16.5	-25.0
STD ERROR	3.8	4.3	4.0	3.3	1.9	1.8	5.3	6.7	3.9	7.8	3.4	4.4	4.3	0.9	5.7	15.0	4.5	4.9	4.0	3.9	7.3

EXER: 8410 NATL % 62.1 An electric current in a copper wire involves the movement of electrons.

UNADJ EFFECT	5.8	0.1	-3.2	-3.4	13.4	-12.2	-8.2	-8.8	11.5	-7.4	1.6	0.1	-3.8	0.4	1.4	-16.1	-3.3	-3.9	7.2	1.8	-18.0
STD ERROR	4.7	4.4	4.2	4.1	2.4	2.5	6.0	6.8	5.6	7.3	4.9	4.6	4.2	0.9	6.0	8.6	3.1	5.8	3.1	4.2	9.5
BAL EFFECT	5.5	0.8	-3.2	-3.7	13.3	-12.3	-6.9	-6.8	8.0	-9.6	2.1	1.5	-4.0	-0.4	4.9	-5.6	-2.2	-4.1	7.3	0.7	-18.4
STD ERROR	4.6	5.6	4.1	4.3	2.3	2.4	6.1	7.1	5.9	7.4	4.8	4.7	4.6	0.9	6.3	10.3	3.0	4.9	3.1	3.5	8.4

EXER: 8411 NATL % 62.0 Flower seeds develop from the ovules rather than leaves, petals, roots, or stems.

UNADJ EFFECT	0.6	-8.9	1.5	4.4	1.9	-1.7	-5.1	-26.4	18.5	-11.4	8.3	-7.8	-4.9	4.1	-26.1	-14.6	-17.9	-0.4	4.2	20.2	-37.1
STD ERROR	4.9	6.4	3.9	5.0	2.4	2.2	6.9	6.9	5.1	7.0	4.7	5.8	3.9	1.0	5.3	16.9	3.9	4.6	3.2	3.3	7.3
BAL EFFECT	0.5	-5.3	0.3	3.2	0.3	-0.2	-0.8	-15.4	9.0	-4.8	4.1	-5.8	0.3	2.4	-13.4	-12.3	-14.8	2.9	2.4	15.4	-31.1
STD ERROR	3.6	6.1	3.5	4.3	1.9	1.7	6.5	5.9	4.4	6.9	4.2	5.3	3.5	0.9	4.8	16.3	3.9	4.7	3.4	3.4	7.8

EXER: 8412 NATL % 60.0 Physical rejection of a transplanted organ is least likely if the donor is an identical twin.

UNADJ EFFECT	4.0	-11.5	0.5	3.6	-1.6	1.4	-15.9	-19.2	14.3	2.8	2.7	-2.5	-3.7	4.2	-32.7	-6.8	-14.1	-11.5	7.2	19.3	-25.1
STD ERROR	4.7	5.2	3.1	4.3	2.3	2.0	6.0	5.9	5.2	9.4	3.7	4.0	4.0	0.8	5.5	14.8	4.1	5.6	4.3	2.8	7.7
BAL EFFECT	1.3	-3.3	-0.1	1.1	-1.4	1.2	-13.9	-1.1	6.8	1.9	0.5	-1.3	-2.4	1.0	-24.1	-0.3	-11.3	-8.8	5.1	15.7	-18.7
STD ERROR	3.8	5.0	2.9	3.6	2.0	1.8	5.4	6.2	4.7	8.4	3.9	3.3	4.0	0.8	6.6	14.0	4.1	5.5	4.3	3.2	7.5

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME APP SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXPR: R413 NATL % 59.8 Most of the chemical energy expended in an automobile engine is not used to move the car but is changed to heat.																					
UNADJ EFFECT	4.9	-6.8	0.1	-0.2	17.0	-15.6	-3.9	-6.6	5.0	0.3	-2.2	5.9	-3.7	2.8	-14.7	-20.3	-11.0	-1.1	7.0	9.1	-10.9
STD ERROR	2.6	4.0	2.9	3.6	2.1	1.8	6.9	7.3	4.6	7.6	3.6	3.9	3.0	0.9	6.1	10.7	3.7	4.7	3.1	3.9	8.2
BAL EFFECT	3.8	-4.5	0.7	-1.7	16.6	-15.2	-3.1	-1.6	0.9	2.9	-1.6	3.1	-1.8	2.0	-9.2	-17.5	-7.4	-2.2	4.0	8.0	-8.1
STD ERROR	2.7	3.9	3.0	3.8	2.2	1.7	5.4	8.3	4.4	7.2	3.8	3.3	2.8	1.0	6.7	11.8	3.7	4.2	3.1	4.0	7.8
EXPR: R414 NATL % 56.9 Salt carried by the rivers to the oceans comes from beneath the ground.																					
UNADJ EFFECT	-2.7	-0.6	2.8	0.1	5.4	-4.9	5.5	-15.5	4.9	-2.0	-1.7	2.9	-2.1	2.2	-19.0	2.5	-6.4	-0.6	3.6	7.2	-16.8
STD ERROR	3.5	4.3	3.3	3.9	2.4	2.2	5.6	6.3	5.5	6.8	4.2	3.6	4.4	0.8	5.4	9.0	2.8	4.3	4.4	3.5	7.6
BAL EFFECT	-2.4	1.8	1.2	-0.1	5.0	-4.6	4.6	-4.9	0.8	0.9	-2.5	2.9	-0.9	1.4	-14.5	8.4	-6.7	0.1	2.9	6.9	-13.4
STD ERROR	3.8	4.5	3.5	4.2	2.3	2.1	5.9	8.0	5.8	7.1	4.5	3.9	4.6	0.9	6.3	10.5	3.0	4.4	4.5	3.6	7.1
EXPR: R415 NATL % 55.3 A boat travelling at 5 miles per hour down a river which flows at 5 miles per hour will take 60 minutes to go 10 miles downstream.																					
UNADJ EFFECT	5.6	-8.4	3.1	-5.0	15.3	-15.7	-2.8	-17.6	20.0	-6.8	-1.3	-1.4	-6.4	3.8	-28.9	-7.6	-9.2	0.2	2.0	12.2	-23.9
STD ERROR	4.9	3.9	3.8	4.9	2.1	2.2	6.7	8.5	4.0	7.1	4.1	4.4	4.7	0.8	4.5	15.9	4.0	4.1	4.1	3.7	7.2
BAL EFFECT	4.1	-4.0	5.1	-9.6	15.6	-13.9	-2.3	-0.5	12.2	-4.9	-2.2	-1.3	-4.8	2.9	-22.6	-3.6	-6.9	2.5	-0.1	9.6	-19.1
STD ERROR	3.6	4.1	3.2	3.8	2.1	2.1	6.5	8.7	4.4	6.7	3.8	3.8	4.3	0.8	5.3	11.5	3.8	4.4	3.6	3.7	8.6
EXPR: R416 NATL % 55.3 The egg of the human female is released about 14 days after menstruation begins.																					
UNADJ EFFECT	2.6	-6.0	-2.6	4.7	-6.6	6.2	-15.2	-23.0	12.0	-13.5	5.5	1.1	-2.9	5.8	-34.0	-34.6	-14.8	1.8	-0.1	18.7	-35.7
STD ERROR	2.9	3.5	3.1	3.3	1.9	1.8	6.4	5.1	4.9	8.2	3.3	4.1	4.7	1.1	4.5	8.6	3.7	4.9	3.8	3.3	7.5
BAL EFFECT	2.1	-1.4	-4.8	4.4	-7.2	6.6	-9.8	-7.1	5.0	-6.8	2.8	2.0	-3.3	4.6	-25.3	-33.4	-9.1	3.0	-3.9	15.5	-28.9
STD ERROR	2.7	3.3	3.2	3.6	1.8	1.7	5.4	6.6	4.2	7.8	3.3	3.6	4.6	1.3	4.8	14.5	3.7	4.7	3.4	3.3	9.0
EXPR: R417 NATL % 54.5 Recognize that outlawing the use of insecticides does not help to increase the total amount of food available to the human race.																					
UNADJ EFFECT	6.8	-3.5	-4.4	0.1	5.3	-4.8	-7.5	-32.0	17.2	-10.8	3.1	-3.9	3.3	5.3	-32.6	-38.8	-12.6	-3.5	1.0	18.4	-22.9
STD ERROR	4.5	7.9	3.9	4.8	1.9	1.8	7.1	6.0	5.4	7.7	4.8	4.5	4.1	0.9	5.6	6.6	3.9	3.6	3.8	2.9	7.9
BAL EFFECT	4.8	0.9	-4.2	-1.3	5.5	-4.9	-5.0	-15.0	9.4	-5.9	2.1	-4.4	3.4	3.8	-22.1	-30.6	-9.0	-0.9	0.0	13.2	-17.6
STD ERROR	3.3	8.5	3.6	4.0	1.9	1.7	6.1	7.4	5.1	7.5	5.0	4.6	4.9	1.0	7.1	9.3	3.5	3.6	3.3	3.0	8.3
EXPR: R418 NATL % 51.5 The longer a rock falls, the greater is its speed.																					
UNADJ EFFECT	0.7	-2.0	0.0	0.7	-10.9	10.3	9.2	-1.9	-7.6	13.7	0.0	3.1	-6.4	-0.9	6.1	3.0	11.0	-17.1	-2.5	-1.2	5.4
STD ERROR	3.9	4.0	4.0	5.2	2.1	2.1	7.5	7.8	5.2	6.4	5.4	4.0	5.4	1.0	7.3	8.2	3.0	4.4	4.3	4.0	10.7
BAL EFFECT	-0.1	-3.6	0.7	2.3	-11.2	10.3	11.7	-8.0	-4.0	14.1	1.3	-0.5	-5.8	-0.2	4.3	-8.3	11.5	-17.5	-2.9	-1.2	6.1
STD ERROR	3.5	4.4	3.7	5.2	2.2	2.2	7.8	7.5	4.9	7.3	5.3	3.7	5.1	1.0	7.7	8.9	3.1	4.3	4.2	3.8	10.4
EXPR: R419 NATL % 49.1 In hot water the molecules are moving faster than in cold water.																					
UNADJ EFFECT	4.5	-7.6	-1.1	2.4	8.6	-8.0	-12.9	-5.9	14.7	-14.0	0.8	3.6	-3.1	4.4	-28.2	-20.2	-15.2	-5.7	3.0	25.1	-28.4
STD ERROR	3.7	4.3	3.4	4.4	2.4	2.3	6.6	6.1	5.6	8.2	3.8	5.0	3.8	0.9	4.1	9.8	3.3	5.0	4.2	3.0	6.8
BAL EFFECT	2.5	-3.2	-0.2	-0.1	8.2	-7.6	-8.6	4.2	5.3	-9.5	-2.2	3.3	0.7	2.9	-18.7	-12.6	-11.8	-6.0	1.0	22.3	-23.7
STD ERROR	2.8	4.1	3.1	4.0	2.4	2.1	5.8	6.1	5.4	6.6	3.8	4.1	3.8	0.9	5.0	8.5	3.3	5.0	4.2	3.3	7.7

EXER: R420 NATL % 44.2 The function of the placenta in the pregnant human female is to carry nourishment to the baby.

UNADJ EFFECT	11.1	-10.5	-5.9	1.5	-12.9	12.0	-10.6	-9.7	17.0	0.1	1.1	-0.9	-7.2	-0.0	-9.0	26.3	-8.2	9.5	-5.5	13.2	-27.0
STD ERROR	4.0	3.6	3.4	4.2	2.3	2.0	7.8	7.5	7.8	6.9	4.0	5.1	3.2	0.8	5.2	7.9	2.7	4.8	3.6	4.1	6.1
BAL EFFECT	10.4	-5.7	-5.2	-0.2	-12.8	11.9	-7.1	-0.4	7.3	0.1	0.8	-1.4	-3.0	-0.6	-4.6	27.3	-10.2	9.7	-2.5	11.3	-22.8
STD ERROR	3.4	3.6	3.2	4.1	1.9	1.8	6.9	7.9	6.9	5.3	3.8	4.7	3.1	0.9	5.8	11.2	2.6	4.7	3.5	3.6	5.1

EXER: R421 NATL % 85.1 If a light eater has a tendency to be overweight, it is most likely due to highly efficient utilization of food by the body.

UNADJ EFFECT	-3.7	-1.7	-1.7	9.3	7.0	-6.4	1.1	-1.3	-6.8	13.3	-1.8	6.3	-5.3	0.6	-5.2	0.4	-1.8	-1.4	3.4	4.6	-18.8
STD ERROR	4.7	4.3	3.2	4.6	2.3	2.0	6.0	6.2	8.7	7.8	4.3	4.1	3.5	0.6	4.9	11.9	3.7	4.3	4.3	4.9	6.7
BAL EFFECT	-3.4	0.6	-2.1	7.6	7.2	-6.6	0.9	2.3	-12.0	12.9	-0.7	8.0	-4.9	0.3	-2.5	-0.9	-1.9	-3.9	2.7	5.8	-19.9
STD ERROR	4.3	3.9	2.9	4.8	2.0	1.8	5.9	6.2	7.3	7.9	4.2	4.2	3.3	0.7	5.4	11.7	3.4	4.4	4.5	4.6	6.3

EXER: R422 NATL % 42.0 Most caves are formed by the action of underground water on limestone.

UNADJ EFFECT	-0.0	-16.0	5.1	4.7	9.6	-8.8	-3.0	-11.7	8.2	-4.8	0.6	-2.2	1.9	1.9	-10.1	-28.3	-8.6	-9.4	8.0	11.6	-24.8
STD ERROR	4.7	4.1	3.6	4.7	2.6	2.5	7.1	5.2	5.3	5.6	4.9	4.0	4.6	0.8	6.2	7.2	3.9	5.4	4.0	3.0	5.9
BAL EFFECT	0.6	-13.4	4.8	2.3	8.6	-7.9	-1.1	-5.7	1.0	-5.0	-0.3	0.3	4.6	0.3	1.6	-21.8	-5.1	-10.5	6.4	10.3	-23.7
STD ERROR	4.6	4.7	3.2	4.6	2.8	2.7	6.3	5.9	6.4	6.8	4.4	3.8	4.6	0.9	6.5	7.9	4.5	5.4	3.7	3.8	6.4

EXER: R423 NATL % 41.9 The system of classifying plants and animals that is most commonly used in the biological sciences is based on structure.

UNADJ EFFECT	2.5	-17.3	-0.4	10.4	4.7	-8.9	-11.1	-12.8	21.7	-0.7	-12.1	1.8	3.2	1.4	-12.2	2.1	-15.1	-5.0	-2.5	21.1	-14.1
STD ERROR	4.9	4.1	4.5	5.8	3.1	3.2	6.7	7.5	5.6	5.8	4.7	5.1	4.5	0.8	6.1	11.7	3.5	4.0	3.9	2.9	5.5
BAL EFFECT	1.3	-13.3	2.5	4.6	7.7	-7.0	-9.7	-4.9	10.9	-2.1	-11.8	4.0	8.6	-0.2	-1.0	11.4	-12.6	-4.4	-1.1	17.4	-14.3
STD ERROR	3.5	3.7	3.5	4.7	2.5	2.5	5.6	8.3	4.4	5.9	4.2	4.4	4.1	0.8	5.8	12.0	3.4	3.3	3.0	3.0	4.9

EXER: R424 NATL % 40.2 Bacteria do not play a key role in photosynthesis.

UNADJ EFFECT	5.0	-2.0	-0.2	-4.3	0.5	-0.4	3.1	-12.6	27.8	-6.6	-4.5	-6.8	0.4	2.3	-14.5	-12.1	-9.1	-9.8	1.4	16.9	-14.9
STD ERROR	5.3	4.9	3.2	4.0	2.4	2.3	7.1	8.3	5.7	4.7	3.7	4.5	4.5	0.9	6.0	15.4	4.6	4.2	4.3	3.8	10.7
BAL EFFECT	4.9	3.4	-0.6	-8.2	1.2	-1.1	4.6	-4.4	23.7	-2.3	-7.2	-5.7	0.7	1.9	-9.9	-14.8	-5.5	-9.1	0.1	13.9	-13.1
STD ERROR	4.4	5.3	3.0	3.9	2.5	2.3	6.9	8.5	5.9	4.8	4.0	4.8	4.8	0.9	6.8	10.5	5.0	4.2	4.7	4.1	10.9

EXER: R425 NATL % 38.9 The presence of an ocean fish fossil on a mountain outcrop is best explained by the hypothesis that the mountain was raised up after the fish had died.

UNADJ EFFECT	-2.7	-3.5	-2.6	10.0	6.3	-5.8	-16.7	-16.9	5.3	1.8	6.1	5.9	-10.0	3.1	-23.3	-5.4	-14.6	0.2	2.2	13.2	-5.6
STD ERROR	3.2	3.8	3.1	4.1	2.1	2.0	6.5	7.7	5.1	7.3	4.4	3.4	3.4	0.7	5.5	12.3	3.3	4.9	5.1	5.0	9.0
BAL EFFECT	-2.8	2.1	-5.1	8.9	7.4	-6.8	-16.0	-3.6	-1.2	2.2	5.3	6.2	-7.0	2.2	-19.1	4.5	-11.6	-0.5	0.9	11.7	-4.6
STD ERROR	3.2	3.8	3.1	4.5	1.9	1.8	6.5	7.3	5.0	7.5	4.8	3.1	3.6	0.8	5.7	10.0	3.4	4.6	4.8	5.1	8.1

EXER: R426 NATL % 36.3 The solid, liquid, and gaseous states of water differ in the average speed with which their molecules are moving.

UNADJ EFFECT	-1.3	-5.0	5.7	-2.6	7.6	-6.4	-6.9	-0.1	22.5	-18.0	2.8	5.4	-13.2	1.5	-9.3	5.8	-16.5	-0.8	0.9	20.6	-5.5
STD ERROR	4.1	4.3	3.3	4.6	2.8	2.4	7.4	7.9	6.0	9.2	4.5	3.9	3.8	1.0	5.3	13.5	2.6	4.6	5.0	4.1	12.6
BAL EFFECT	-0.6	-3.6	5.8	-5.8	8.5	-7.2	-9.7	5.8	16.2	-16.9	-0.8	6.2	-9.2	0.5	-3.7	6.6	-13.3	-2.1	-1.4	19.1	-1.8
STD ERROR	3.6	3.6	3.2	4.4	2.4	2.0	5.9	7.0	5.8	9.8	4.4	3.4	3.2	0.9	4.9	8.9	2.5	4.7	4.9	4.0	12.4

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME APP SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: R427 NATL % 35.8 In ma mals the cerebrum is the center of memory and intelligence.																					
UNADJ EFFECT	2.0	-1.6	-3.0	2.4	1.3	-1.2	-3.6	-4.8	15.9	-11.3	-0.6	-3.5	-4.2	2.8	-23.1	1.6	-9.4	-8.9	2.1	13.7	-12.8
STD ERROR	3.6	4.3	3.6	4.1	2.3	2.1	6.9	6.7	4.9	4.8	3.8	3.5	3.7	0.9	3.8	14.5	3.0	4.9	3.4	3.4	8.3
BAL EFFECT	1.6	2.9	-3.6	0.0	0.8	-0.8	-2.3	6.5	9.5	-6.9	-1.2	-2.5	-4.4	2.4	-19.6	-0.2	-5.9	-8.2	1.1	10.4	-8.8
STD ERROR	3.8	4.4	3.6	4.6	2.4	2.3	7.0	7.4	5.4	4.7	3.9	3.1	3.6	0.8	3.9	11.0	3.3	4.8	3.6	3.4	7.5
EXER: R428 NATL % 30.6 Recognize that if a man whose blood type is OA marries a woman whose blood type is OB, their offspring could not have AA blood type.																					
UNADJ EFFECT	-0.3	0.3	2.7	-3.9	5.3	-4.7	2.2	-1.7	0.8	-4.5	1.8	-2.5	1.3	1.1	-3.2	-17.9	-8.2	-5.7	5.9	5.1	2.5
STD ERROR	3.6	3.6	3.6	3.9	2.0	1.8	5.7	5.9	6.6	6.4	3.7	3.6	3.9	0.8	5.6	7.5	3.0	4.6	3.8	4.3	9.2
BAL EFFECT	-0.0	1.3	1.7	-3.7	5.0	-4.6	3.9	3.8	-2.0	-3.4	0.5	-1.2	1.1	0.6	-1.1	[illegible]	-8.0	-6.4	5.8	5.6	2.1
STD ERROR	3.6	4.3	3.6	4.2	2.0	1.8	5.1	7.1	6.3	7.2	4.1	3.9	4.0	0.9	6.[illegible]	[illegible]	[illegible].0	4.4	3.7	3.9	8.6
EXER: R429 NATL % 25.8 A table showing relations among all the chemical elements is called the periodic table.																					
UNADJ EFFECT	2.9	-11.6	-2.1	8.4	8.8	-8.0	-11.5	-3.8	26.6	0.2	-8.7	-0.1	-10.7	1.4	[illegible]	[illegible]	[illegible]	1.6	-4.6	20.1	-19.7
STD ERROR	4.0	3.6	3.7	5.1	2.0	2.0	4.6	6.3	6.3	5.8	3.3	4.8	3.4	0.7	[illegible]	[illegible]	[illegible].0	4.3	3.5	4.5	6.1
BAL EFFECT	1.2	-7.6	-0.9	5.9	7.4	-6.9	-10.0	3.6	17.0	0.1	-7.3	1.8	-7.8	0.9	-1.6	[illegible]	[illegible]	0.6	-4.8	15.4	-18.8
STD ERROR	3.0	2.8	3.1	3.8	1.9	1.8	3.6	7.5	5.3	6.4	3.0	4.4	3.1	1.0	6.5	[illegible].6	2.5	4.0	3.1	3.7	5.4
EXER: R430 NATL % 22.3 If two light waves are travelling in a vacuum the wave with the higher frequency has the shorter wavelength.																					
UNADJ EFFECT	-0.3	-3.9	1.3	1.9	11.8	-10.8	-9.5	-2.4	13.3	-3.1	-4.8	3.0	-6.1	1.4	-12.3	2.9	-8.5	-2.8	3.4	10.0	-13.2
STD ERROR	2.6	2.8	2.8	3.4	1.9	2.1	3.9	6.0	4.4	6.1	2.9	2.7	2.5	0.5	3.9	11.4	2.5	3.7	4.2	2.7	5.2
BAL EFFECT	-0.4	-0.7	-0.3	1.5	11.8	-10.8	-10.9	7.6	7.1	-1.1	-4.4	3.2	-3.6	1.0	-10.1	6.8	-8.0	-2.7	2.7	9.5	-11.0
STD ERROR	2.3	3.1	2.3	3.0	1.9	2.1	4.5	5.4	4.2	5.8	3.0	2.7	2.5	0.6	4.0	8.9	2.8	3.8	3.9	2.9	5.0
EXER: R431 NATL % 21.2 If the cells referred to were all in the same organism, the amount of DNA present would be identical in mature egg and sperm cells.																					
UNADJ EFFECT	1.0	2.9	-3.3	0.5	0.2	-0.2	-1.1	-13.5	9.8	1.1	-2.5	5.3	-8.6	1.2	-4.2	-8.9	-5.4	-5.4	-4.3	13.4	-2.9
STD ERROR	2.6	4.1	2.5	4.0	2.0	1.8	6.4	2.9	4.5	4.3	3.2	4.0	2.4	0.8	5.4	5.5	3.3	4.3	2.6	3.6	6.3
BAL EFFECT	0.3	4.9	-2.9	-1.0	0.7	-0.7	0.3	-10.0	8.0	1.4	-1.7	4.2	-8.6	0.6	-0.8	-6.7	-3.4	-4.8	-4.8	11.7	-3.6
STD ERROR	2.4	3.8	2.4	3.8	1.8	1.6	6.8	4.2	4.3	3.6	3.1	3.6	2.9	0.8	5.4	5.8	3.3	4.2	2.6	3.6	5.8
EXER: R432 NATL % 16.0 Given that the atomic weight of Titanium is 48, then the average mass of Titanium atoms is about 4 times the mass of a carbon isotope of atomic mass 12.																					
UNADJ EFFECT	-0.1	-0.4	1.3	-1.8	7.3	-6.2	-11.7	2.0	9.5	-6.1	3.3	0.8	-3.9	-0.1	-0.4	4.1	-8.0	-1.9	-0.8	14.1	-16.0
STD ERROR	3.3	4.6	3.2	4.0	2.1	1.8	2.9	6.8	7.6	5.3	5.5	3.3	3.3	0.9	4.6	14.3	2.3	3.7	2.8	4.5	2.3
BAL EFFECT	0.1	0.1	1.6	-3.5	8.0	-6.8	-12.3	4.1	4.7	-6.1	2.7	1.4	-1.5	-0.7	2.9	7.0	-7.4	-2.6	-2.1	14.8	-14.7
STD ERROR	3.4	4.4	2.9	4.2	2.0	1.7	2.9	7.4	6.7	5.9	4.8	3.0	3.4	1.0	5.1	10.3	2.3	3.8	2.9	4.1	3.0
EXER: R433 NATL % 15.1 The age of certain rocks and their fossils is determined by measuring the amounts of uranium and lead they contain.																					
UNADJ EFFECT	-0.6	-7.5	-1.8	9.9	6.9	-6.5	-10.6	5.3	6.9	3.6	5.9	-6.6	-7.2	-0.4	5.3	-6.3	-9.1	1.7	3.8	6.5	-9.9
STD ERROR	2.9	2.7	3.0	4.5	1.8	1.8	2.8	6.4	5.2	5.2	3.6	2.8	2.6	0.7	4.7	5.8	2.3	4.1	3.1	3.9	3.3
BAL EFFECT	-0.1	-3.4	-3.2	8.1	6.0	-5.6	-8.6	0.5	2.4	0.4	6.2	-4.7	-3.9	-0.9	9.9	-6.2	-7.2	1.3	3.7	5.0	-10.4
STD ERROR	2.5	3.0	2.5	4.1	1.5	1.5	3.0	7.5	4.3	4.9	3.2	2.4	2.4	0.7	4.6	6.2	2.1	3.8	3.2	3.1	3.4

EXER: 8434 NATL % 3.0 Uranium-lead dating has been used to obtain accurate estimates of the age of the oldest known rock strata.

UNADJ EFFECT	-0.5	1.0	-0.1	-0.1	0.8	-0.7	-1.3	-1.6	-0.8	5.4	-0.9	0.5	0.4	-0.4	2.3	1.6	0.9	0.5	-1.3	0.4	-3.0
STD ERROR	1.0	1.3	1.1	1.3	0.7	0.6	1.3	1.5	1.5	4.4	1.0	1.3	1.6	0.3	2.0	3.3	1.3	1.3	0.9	1.1	0.7
BAL EFFECT	-0.7	0.8	0.4	-0.2	0.9	-0.8	-1.0	-2.0	-0.9	5.4	-0.9	0.8	0.2	-0.3	2.1	0.7	0.6	0.3	-1.0	0.8	-2.2
STD ERROR	1.1	1.2	1.0	1.2	0.8	0.7	1.3	1.6	1.4	4.5	1.0	1.4	1.6	0.4	2.3	3.7	1.3	1.3	0.9	1.2	1.0

OBJECTIVE: Possess the abilities and skills needed to engage in the processes of science.

EXER: 8435 NATL % 94.8 Recognize vaccination as the reason that so few people get smallpox.

UNADJ EFFECT	-0.3	-4.1	1.2	2.3	-0.6	0.5	-6.0	-4.5	4.1	-7.4	2.2	1.1	-2.3	2.4	-15.1	-12.2	-4.9	2.1	3.2	2.8	-17.4
STD ERROR	1.3	1.5	1.1	0.9	0.9	0.8	3.6	2.5	1.2	3.9	1.5	1.0	1.5	0.5	3.1	6.1	1.5	1.3	1.0	1.2	9.4
BAL EFFECT	-0.2	-1.4	-0.1	1.9	-0.7	0.7	-5.3	2.5	2.7	-4.1	0.6	1.3	-2.8	2.1	-12.3	-11.8	-2.1	2.4	1.5	1.4	-14.2
STD ERROR	1.2	1.6	0.9	1.0	0.9	0.8	2.9	3.3	1.2	4.6	1.3	1.2	1.5	0.6	4.1	4.9	1.5	1.3	1.0	1.1	10.3

EXER: 8436 NATL % 94.0 Wind or sun are the most likely causes that paint on one side of a house does not last as long as paint on the other sides.

UNADJ EFFECT	-1.1	-1.1	0.5	1.5	1.4	-1.3	-7.6	-11.8	0.7	-5.4	4.2	2.3	-0.2	1.6	-12.8	0.5	-4.1	-0.3	4.2	2.9	-13.7
STD ERROR	1.3	1.5	1.3	1.5	1.1	1.0	4.3	4.7	2.8	2.4	1.4	1.1	1.3	0.5	3.4	2.8	1.5	1.9	1.1	1.5	9.8
BAL EFFECT	-1.3	0.1	0.1	1.4	1.3	-1.1	-7.6	-5.4	-0.8	-3.8	2.8	2.6	-0.1	1.1	-9.8	1.9	-3.1	0.0	3.5	2.2	-12.7
STD ERROR	1.2	1.4	1.1	1.4	1.0	0.9	3.9	4.4	2.7	2.4	1.3	1.2	1.3	0.4	3.1	3.0	1.2	1.7	1.1	1.7	10.0

EXER: 8437 NATL % 88.7 Read a bar graph and determine the average number of heartbeats per minute for a person swimming.

UNADJ EFFECT	-0.8	-3.1	0.1	3.4	2.1	-1.9	-0.5	-38.6	0.8	-0.8	2.6	2.1	0.7	3.1	-18.5	-19.8	-7.2	1.7	6.2	6.2	-25.4
STD ERROR	2.5	2.8	1.9	1.6	1.5	1.4	3.9	5.2	3.6	4.0	2.2	2.8	2.1	0.8	4.2	16.8	2.5	3.0	2.0	2.0	8.0
BAL EFFECT	0.4	-2.2	-2.2	4.4	2.4	-2.2	0.2	-8.3	-3.4	0.6	1.1	2.3	2.9	2.1	-12.3	-13.4	-5.5	1.9	5.3	4.8	-23.5
STD ERROR	2.1	2.6	1.8	1.9	1.4	1.3	3.7	4.7	3.1	4.2	2.0	2.8	2.3	0.8	3.9	15.6	2.1	3.1	1.9	2.2	7.4

EXER: 8438 NATL % 72.7 Operate a beam balance.

UNADJ EFFECT	-6.3	-1.6	4.3	3.5	11.7	-10.8	3.3	-7.6	6.6	-7.0	-4.0	2.5	4.3	2.7	-15.0	-16.9	-4.6	2.6	7.4	4.1	-27.7
STD ERROR	6.5	7.8	6.9	7.5	3.9	3.8	6.0	16.8	22.9	8.5	10.4	9.0	9.4	1.5	9.5	21.6	6.0	9.6	5.2	5.8	20.4
BAL EFFECT	-4.2	-5.2	5.6	1.4	12.8	-11.8	7.2	-6.0	-5.3	-5.8	-10.0	5.2	3.8	2.5	-12.8	-23.3	-4.5	3.1	4.9	2.5	-22.3
STD ERROR	6.1	10.6	7.8	10.3	3.8	3.6	6.7	15.1	19.6	10.1	11.6	9.2	10.1	1.3	8.3	20.0	5.4	9.8	5.9	6.4	29.3

EXER: 8439 NATL % 62.7 Given data from four weight experiments, determine which one provides strongest evidence that one object is heavier than another.

UNADJ EFFECT	-2.3	-6.5	3.1	3.4	6.7	-6.3	5.8	-2.7	-1.4	-4.9	6.6	-8.8	2.9	3.0	-17.5	-19.3	-7.9	-2.0	5.4	7.6	-17.5
STD ERROR	4.1	4.1	2.8	3.8	2.2	2.0	6.5	7.3	6.2	5.9	3.4	4.0	3.4	0.9	5.6	14.1	3.2	4.4	3.2	4.1	11.1
BAL EFFECT	-0.1	-3.5	0.1	2.8	5.8	-5.4	6.3	5.1	-5.3	-2.0	3.6	-7.7	4.8	2.4	-11.7	-17.0	-5.3	-2.2	4.0	6.3	-16.4
STD ERROR	4.4	4.1	2.8	3.9	2.3	2.1	6.3	8.4	6.3	6.3	3.6	4.0	3.4	1.1	6.3	14.0	3.3	4.2	3.3	3.9	11.3

EXER: 8440 NATL % 51.3 Given the natural balance between hawks, rabbits and grass in a meadow, a decrease in the number of rabbits also affects the number of hawks and the amount of grass.

UNADJ EFFECT	5.4	-11.3	-5.3	9.8	7.7	-6.9	-11.3	-28.9	31.4	0.5	-2.2	-6.3	-5.9	4.0	-30.7	-8.6	-12.4	-17.9	9.2	19.2	-23.2
STD ERROR	5.0	4.9	3.8	5.2	2.2	2.1	8.2	7.5	3.4	7.4	3.3	4.4	4.5	0.9	4.9	16.6	4.3	5.6	4.4	2.8	8.0
BAL EFFECT	2.9	-3.3	-4.2	4.9	6.6	-5.9	-8.5	-13.5	21.3	-0.2	-2.6	-4.7	-3.5	2.5	-18.3	-6.5	-8.7	-13.9	8.1	12.9	-17.3
STD ERROR	3.6	5.2	3.1	3.9	2.3	2.2	7.0	7.1	4.3	6.3	3.3	3.7	4.5	0.8	5.3	14.1	3.9	5.2	3.8	2.9	7.3

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	RETRDED RURAL	INTRD CITY	RETRDED APP.SUB.	INTRD SUB.FRINGE	URBAN FRINGE	URBAN CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST GRADUATE	
PEPP: 9001 NATL % 88.2 "Time to swings of a pendulum.																					
DRADJ PPPPCT	-15.6	-8.7	9.0	1.5	-9.6	5.8	-9.7	-89.2	11.9	-6.1	15.6	17.2	-11.8	8.0	-23.9	6.2	-6.8	8.1	5.8	6.9	-28.8
STD PRROR	7.9	6.6	8.8	6.2	3.7	3.5	5.2	1.6	9.1	9.5	10.5	10.9	8.8	1.6	7.5	38.5	5.0	7.0	7.7	8.6	10.7
RAL PPPPCT	-17.8	8.5	8.8	6.0	-5.0	8.8	-11.5	-39.1	29.0	-1.9	18.1	18.0	-10.9	1.9	-31.0	1.8	0.9	2.9	1.6	-1.5	-22.1
STD PRROR	10.0	7.8	6.9	7.1	3.6	3.8	5.5	13.6	8.8	18.0	9.1	10.6	9.0	2.1	11.1	39.9	5.8	5.7	6.0	8.5	10.3
PEPP: 9002 NATL % 38.8 Select the best line graph showing average normal height increases in children as a function of their age.																					
DRADJ PPPPCT	2.1	-3.9	-8.5	7.2	0.9	-0.6	2.5	-5.9	-1.6	-7.8	-1.9	5.9	1.6	2.8	-11.4	-27.2	-9.1	-2.1	8.3	6.1	-18.1
STD PRROR	8.0	3.1	3.0	8.1	2.8	2.2	5.8	7.5	5.2	5.8	8.0	8.5	3.6	1.0	8.4	8.8	3.0	5.3	8.1	3.6	6.0
RAL PPPPCT	3.3	-5.8	-8.2	8.1	1.1	-1.0	8.8	8.1	-8.9	-7.8	-8.6	8.2	3.8	2.3	-10.3	-26.8	-9.1	-2.9	8.5	6.8	-17.7
STD PRROR	3.9	3.6	2.9	3.9	2.2	2.0	5.8	7.0	5.8	6.2	3.8	8.3	3.3	1.0	7.9	5.8	3.1	5.1	8.2	3.6	6.7
PEPP: 9003 NATL % 78.9 Realize that atoms are rarely destroyed so that carbon atoms in a piece of bread could have been part of a dinosaur's body in some past.																					
DRADJ PPPPCT	-3.1	-1.6	1.1	2.8	10.1	-8.9	-8.5	-0.6	15.3	1.9	-2.6	-3.8	-6.0	2.6	-10.1	-21.0	-9.8	-6.8	5.9	10.1	-16.6
STD PRROR	3.8	5.9	3.7	8.0	2.8	2.1	5.0	5.1	6.0	7.0	3.8	8.6	3.9	0.6	8.8	3.6	2.6	3.9	3.6	3.8	5.3
RAL PPPPCT	-8.0	0.8	1.8	3.0	9.1	-8.1	-1.6	8.8	9.2	9.6	-5.9	-1.5	-5.2	2.8	-9.8	-22.7	-6.1	-1.9	8.9	7.3	-17.8
STD PRROR	3.3	8.9	3.6	8.0	2.3	2.0	5.8	5.1	6.1	7.3	3.7	8.0	8.0	0.7	5.2	7.7	3.8	3.5	3.3	3.8	5.1
PEPP: 9004 NATL % 28.5 Doubling the linear dimensions of a cube will increase the volume eight times.																					
DRADJ PPPPCT	9.7	-5.2	-5.0	-1.7	7.8	-7.1	-12.1	-10.9	9.0	3.6	2.8	-1.1	-8.3	1.3	-6.1	-15.5	-9.1	-8.0	8.2	5.8	-8.9
STD PRROR	8.0	8.0	3.1	5.6	2.0	2.0	8.7	5.8	8.9	6.8	3.9	8.0	3.6	0.7	5.5	8.7	3.1	8.3	8.2	8.2	5.9
RAL PPPPCT	9.7	-7.6	-5.8	-2.8	7.6	-7.0	-8.2	-3.1	3.9	1.1	1.6	0.8	-7.1	0.7	-3.2	-7.7	-7.7	-8.1	8.8	3.8	-8.9
STD PRROR	3.7	8.2	3.3	8.9	1.9	1.9	8.5	6.9	8.7	7.0	3.3	3.7	3.5	0.9	6.7	8.0	3.1	8.3	3.8	3.8	5.9
PEPP: 9005 NATL % 33.8 Determine the density of a wood block using a beam balance.																					
DRADJ PPPPCT	8.1	9.3	6.5	-10.0	8.2	-3.9	-3.7	-11.8	-11.8	-0.9	8.0	6.7	-9.0	1.8	-9.9	-11.6	-8.6	-6.3	6.6	8.2	13.5
STD PRROR	8.1	8.5	8.5	7.9	2.8	2.7	3.8	2.6	2.6	5.1	6.8	8.0	3.2	0.7	2.9	2.6	2.8	4.3	6.0	8.3	18.8
RAL PPPPCT	1.8	3.7	5.8	-10.2	5.3	-8.9	-8.3	-5.9	-9.6	2.6	-0.8	10.7	-8.0	2.8	-8.2	-8.9	-5.5	-9.0	5.0	3.8	15.5
STD PRROR	3.9	8.9	8.2	8.8	2.5	2.3	3.9	7.0	10.5	5.5	7.1	8.3	8.6	1.1	6.2	8.2	2.7	8.9	5.6	8.1	18.8
OBJECTIVE: Understand the investigative nature of science.																					
PEPP: 9006 NATL % 56.9 Recognize that repeated measures of the same object will usually yield similar results but not exactly the same.																					
DRADJ PPPPCT	3.2	0.7	-0.9	-3.8	8.1	-5.8	-9.5	-28.8	19.7	-17.0	-1.6	-0.2	2.3	2.8	-23.7	1.6	-7.2	1.1	2.0	10.9	-28.5
STD PRROR	8.2	8.2	3.1	5.1	2.5	2.3	7.5	6.1	8.2	7.3	8.2	8.2	3.8	0.8	5.3	7.1	3.5	8.3	3.7	3.5	8.2
RAL PPPPCT	2.8	3.7	-2.2	-3.2	5.5	-5.0	-10.2	-16.9	18.6	-18.1	-1.8	-0.3	3.1	3.8	-13.7	6.5	-6.8	3.8	0.6	8.2	-22.0
STD PRROR	3.2	8.2	2.9	8.0	2.8	2.1	7.0	7.5	8.1	7.1	8.2	8.3	3.8	0.9	5.8	7.5	3.6	3.8	3.6	3.3	8.6
PEPP: 9007 NATL % 83.3 Select "A possible explanation for observations" as the statement most likely to be called a theory.																					
DRADJ PPPPCT	-5.8	-7.8	5.6	7.0	8.0	-3.8	-6.0	-23.7	28.8	-8.3	15.2	-3.3	-12.8	.5	-10.6	-0.6	-17.2	-7.2	10.2	19.3	-17.1
STD PRROR	8.0	5.3	3.1	3.8	2.9	2.5	6.0	8.8	8.8	10.9	6.9	8.1	8.0	.0	3.3	11.9	3.8	5.0	8.8	8.8	9.6
RAL PPPPCT	-8.6	-1.3	2.0	6.6	8.0	-3.8	-7.3	-9.9	16.8	-1.8	10.7	-2.1	-10.7	6.8	-20.9	-1.6	-10.8	-5.9	3.8	15.3	-7.0
STD PRROR	3.8	8.8	3.3	3.9	2.6	2.2	6.6	5.8	8.5	10.3	7.1	3.8	3.8	3.0	8.8	11.3	3.1	8.6	8.2	3.9	9.8
OBJECTIVE: Have attitudes about and appreciation of scientists, science, and the consequences of science that stem from adequate understandings.																					

PERF: 9888 NATL % 78.9 Recognize that United States scientists are not ahead of scientists in other countries in every field of research.

UNADJ EFFECT	1.8	-8.8	-1.3	6.0	2.8	-2.6	1.7	-9.1	17.5	-8.8	-2.3	-5.6	-2.6	2.1	-15.8	-7	-6.9	2.7	-2.6	13.6	-19.6
STD ERROR	2.2	8.1	2.8	3.1	1.9	1.8	8.9	5.5	2.5	6.1	8.1	3.3	2.9	0.7	5.4	11.1	1.2	1.7	3.6	2.6	8.9
BAL EFFECT	1.9	-5.1	-0.8	2.4	1.5	-1.8	2.0	-3.1	11.1	-5.6	-2.6	-3.3	-0.2	1.2	-9.1	-2.8	-4.1	1.6	-2.2	9.7	-12.3
STD ERROR	2.1	3.7	2.7	2.8	1.8	1.7	8.7	5.2	3.1	6.3	3.5	3.9	2.9	0.7	8.8	13.0	1.0	8.0	3.8	3.0	9.2

PERF: 9889 NATL % 78.4 Frequency of watching special television shows dealing with a scientific topic.

UNADJ EFFECT	-3.0	-3.1	3.5	1.9	1.5	-1.2	-9.4	-3.0	3.7	-20.0	6.3	8.3	-0.1	2.5	-17.0	-11.2	-8.3	1.1	8.7	8.9	-7.9
STD ERROR	3.8	8.1	2.5	8.2	2.5	2.1	8.2	8.1	8.8	8.1	8.1	3.2	3.6	0.9	8.9	9.5	2.5	5.1	3.8	3.7	10.2
BAL EFFECT	-1.9	-3.1	1.8	3.6	1.7	-1.8	-9.6	2.3	1.9	-19.5	8.5	8.8	0.8	2.0	-9.9	-13.5	-2.0	-0.1	-1.1	8.5	-8.8
STD ERROR	3.7	8.2	2.6	8.6	2.2	1.9	8.5	8.1	8.8	8.8	8.6	3.3	3.6	1.0	8.9	11.2	2.8	5.0	3.9	3.6	8.6

OBJECTIVE: Know the fundamental facts and principles of science.

PERF: 9901 NATL % 97.1 (Test for this exercise was not released)

UNADJ EFFECT	-0.3	-0.8	1.6	-1.1	-0.4	0.7	-1.6	-6.3	2.6	-1.4	0.9	0.6	-0.1	1.2	-8.1	-18.8	-2.3	1.8	2.8	1.9	-12.3
STD ERROR	1.0	1.2	0.7	1.1	0.6	0.6	1.8	1.5	0.7	1.6	0.9	0.9	1.2	0.8	2.8	7.0	1.0	1.1	0.6	0.7	5.1
BAL EFFECT	-0.4	-0.7	1.1	-0.7	-0.8	0.7	-0.7	-2.7	1.4	-1.1	0.2	0.6	-0.2	0.9	-2.9	-16.0	-1.1	0.9	1.7	1.1	-11.3
STD ERROR	0.9	1.0	0.6	1.2	0.6	0.5	2.0	1.3	0.6	2.5	0.8	0.8	1.0	0.3	7.0	6.8	0.9	1.2	0.6	0.7	5.1

PERF: 9902 NATL % 95.8 (Test for this exercise was not released)

UNADJ EFFECT	0.1	-2.7	1.0	0.8	1.2	-0.8	0.9	-8.1	8.0	-2.8	0.3	-0.1	-1.9	0.9	-1.6	-18.3	-0.8	-2.1	0.7	2.9	-5.2
STD ERROR	1.4	2.4	1.6	1.5	0.9	0.8	1.9	1.2	1.0	1.8	1.9	2.0	1.9	0.5	1.5	7.0	1.5	1.7	1.6	1.1	3.9
BAL EFFECT	-0.4	-1.1	0.9	1.9	0.8	-0.8	2.0	-2.6	2.8	-1.5	-0.2	-0.2	-1.3	0.7	-0.1	-19.0	0.8	-2.9	0.0	1.7	-8.1
STD ERROR	1.4	2.1	1.8	1.7	1.0	0.9	1.9	1.9	0.8	2.9	1.8	1.9	2.0	0.5	1.9	7.0	1.1	1.6	1.5	1.0	6.2

PERF: 9903 NATL % 91.2 (Test for this exercise was not released)

UNADJ EFFECT	-0.1	-0.8	-0.1	1.0	-0.1	0.3	2.1	-19.7	8.9	-2.1	1.1	8.1	-0.8	1.8	-9.1	-13.1	-2.8	2.2	1.0	3.6	-15.0
STD ERROR	2.1	2.2	2.8	2.0	1.1	1.0	2.9	6.3	2.1	1.8	2.8	2.2	2.1	0.8	5.6	7.8	1.9	2.8	2.2	2.1	8.0
BAL EFFECT	-1.3	0.0	0.1	1.4	-0.6	0.6	3.4	-16.9	1.7	-8.6	-0.5	8.8	-0.5	0.9	-8.0	-8.7	-1.8	2.9	0.6	2.1	-11.9
STD ERROR	1.9	2.3	2.8	2.0	1.1	1.0	3.1	6.3	2.5	8.0	2.1	2.2	2.1	0.8	5.6	7.7	1.7	2.1	2.1	2.0	7.0

PERF: 9904 NATL % 88.1 (Test for this exercise was not released)

UNADJ EFFECT	1.3	-9.8	1.0	5.2	8.8	-8.2	-1.9	-10.0	8.5	1.8	-1.7	-3.0	1.9	2.8	-19.8	-8.3	-11.0	3.2	5.1	8.0	-29.2
STD ERROR	1.7	1.1	2.1	1.7	1.1	1.2	8.9	5.8	1.7	1.8	2.5	2.6	2.1	0.7	5.1	8.0	2.8	1.8	1.9	1.6	10.1
BAL EFFECT	1.1	-5.8	-0.8	3.8	8.0	-1.7	-3.1	0.6	2.1	8.8	-3.0	-1.8	1.1	2.1	-13.6	-8.8	-8.0	2.9	1.7	6.1	-20.6
STD ERROR	1.6	1.8	2.1	1.9	1.2	1.1	8.2	5.1	1.9	8.2	2.5	2.6	2.2	0.7	5.2	7.2	2.7	1.8	1.9	1.7	9.8

PERF: 9905 NATL % 88.1 (Test for this exercise was not released)

UNADJ EFFECT	0.7	-6.5	1.8	-0.6	-8.7	8.3	-10.3	-22.8	8.6	-2.1	6.1	-1.0	0.8	8.7	-28.2	-10.1	-10.1	-0.9	8.7	10.5	-19.0
STD ERROR	2.3	3.6	1.8	2.8	1.4	1.3	3.7	7.0	2.6	8.3	1.8	3.8	2.6	0.9	8.9	17.1	3.2	3.3	2.0	1.8	7.2
BAL EFFECT	0.4	-3.2	2.5	-1.3	-8.6	8.3	-8.0	-7.6	1.9	0.9	1.3	-0.2	2.2	3.6	-22.3	-22.9	-6.0	0.5	2.2	6.8	-18.8
STD ERROR	2.1	3.1	1.8	2.3	1.2	1.2	3.6	7.3	2.8	8.3	1.9	3.0	2.8	0.9	5.3	15.1	2.8	3.0	2.0	1.2	6.5

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION			
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER SUB FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST GRADUATE
EXPR: 0906 NATL % 87.7 (Test for this exercise was not released)																				
UNADJ EFFECT	-0.9	-4.8	3.2	1.2	6.0	-5.5	-0.4	-16.9	4.9	-0.8	3.0	-4.6	3.1	2.0	-11.9	-2.9	-4.6	-2.9	1.9	8.5	-20.2
STD ERROR	1.4	2.6	1.7	2.1	1.2	1.2	5.3	5.3	2.8	4.2	2.0	2.7	1.7	0.6	4.4	5.3	1.9	3.0	2.0	1.5	9.8
BAL EFFECT	-1.8	-2.2	3.0	0.3	6.1	-5.6	-0.1	-9.8	1.0	0.1	1.5	-4.4	4.0	1.1	-8.1	-1.7	-3.7	-1.8	0.4	7.4	-18.0
STD ERROR	1.4	2.7	1.6	2.1	1.2	1.2	4.9	5.7	2.6	4.7	1.9	2.6	1.9	0.7	4.7	5.4	1.8	3.4	1.9	1.7	4.5
EXPR: 0907 NATL % 84.9 (Test for this exercise was not released)																				
UNADJ EFFECT	-1.2	-2.5	0.0	1.7	0.2	-0.2	-3.9	-16.4	9.0	-4.1	2.7	-2.7	-0.6	3.2	-19.8	-11.7	-6.6	2.9	6.4	3.9	-27.4
STD ERROR	2.1	2.9	2.1	2.6	1.6	1.5	4.8	4.4	2.9	4.2	2.4	3.1	1.9	0.7	4.4	7.5	2.4	2.4	2.0	2.2	9.1
BAL EFFECT	-2.4	0.3	-0.4	3.6	0.4	-0.1	-3.7	-5.8	6.8	-0.9	0.4	-2.4	-1.5	2.7	-15.4	-10.7	-3.9	3.6	5.1	1.7	-25.1
STD ERROR	2.5	3.1	2.3	2.2	1.6	1.5	5.1	5.0	2.6	4.7	2.4	3.2	3.9	0.7	4.5	7.1	2.4	2.4	2.0	2.2	10.1
EXPR: 0908 NATL % 81.6 (Test for this exercise was not released)																				
UNADJ EFFECT	4.1	-9.0	1.2	1.5	7.1	-6.8	-16.5	-9.5	8.5	-5.2	7.3	-6.0	-0.5	2.4	-19.1	-3.4	-6.8	-3.4	4.9	11.3	-36.1
STD ERROR	2.0	3.7	1.8	2.3	1.4	1.3	5.3	4.4	2.8	3.6	2.0	2.5	2.9	0.8	4.5	5.7	2.5	3.0	2.4	1.9	8.7
BAL EFFECT	2.9	-4.5	1.2	-0.9	7.2	-6.6	-15.7	1.9	4.7	-4.0	4.9	-5.1	0.9	1.7	-14.4	2.1	-5.5	-0.9	2.1	19.7	-31.4
STD ERROR	1.9	3.2	1.8	2.3	1.4	1.2	5.5	4.9	2.8	3.9	2.3	2.7	2.9	0.7	5.1	4.5	2.4	3.0	2.2	2.1	8.9
EXPR: 0909 NATL % 83.2 (Test for this exercise was not released)																				
UNADJ EFFECT	0.6	-11.9	6.3	-0.7	-1.3	1.2	1.7	-20.2	9.1	-19.8	3.7	4.0	-0.5	5.3	-38.3	-25.1	-4.0	-7.0	5.3	11.4	-19.9
STD ERROR	3.1	3.8	2.0	3.0	1.7	1.6	4.1	4.1	3.3	4.1	2.1	2.9	3.4	0.9	4.6	11.4	2.5	3.9	2.3	3.9	9.1
BAL EFFECT	1.7	-9.7	4.3	-0.9	-1.3	1.2	3.0	-4.9	4.8	-14.0	-1.1	4.0	3.3	4.1	-25.6	-22.6	-3.5	-7.2	3.2	7.7	-13.5
STD ERROR	2.2	3.8	1.8	2.6	1.4	1.3	4.0	5.4	3.5	5.0	2.3	3.1	2.6	0.9	5.0	4.2	2.4	3.6	2.1	3.9	6.7
EXPR: 0910 NATL % 81.5 (Test for this exercise was not released)																				
UNADJ EFFECT	2.7	-9.6	-0.5	5.5	-2.1	2.0	4.4	-6.9	3.7	-2.9	-1.0	3.8	-3.3	0.5	-8.7	12.3	-0.7	2.0	1.0	2.3	-18.2
STD ERROR	3.4	4.3	2.4	2.6	1.9	1.7	3.4	6.3	4.5	5.2	4.1	2.9	2.8	0.6	4.7	3.6	2.0	3.3	3.2	2.6	10.1
BAL EFFECT	2.8	-9.8	-0.4	5.4	-2.3	2.1	5.6	-3.5	-0.3	-4.4	-1.8	3.8	0.3	0.0	-3.9	10.3	-0.2	1.5	1.7	3.0	-16.3
STD ERROR	3.3	4.8	2.6	2.5	2.0	1.8	3.8	7.2	4.6	4.5	3.9	2.8	2.8	0.6	5.0	4.5	2.4	3.1	3.1	2.4	9.9
EXPR: 0911 NATL % 81.1 (Test for this exercise was not released)																				
UNADJ EFFECT	2.9	-3.1	2.4	-4.6	3.3	-2.9	-10.5	-18.0	5.7	-9.6	0.9	3.7	4.4	4.2	-26.6	-26.5	-8.0	3.9	3.4	7.3	-18.6
STD ERROR	2.5	3.1	2.5	2.8	1.9	1.7	5.6	4.9	4.4	6.6	3.3	3.2	3.3	4.0	4.8	11.4	3.1	3.9	3.5	3.4	7.5
BAL EFFECT	1.6	-0.9	2.1	-4.4	3.9	-3.5	-9.5	-3.5	2.2	-5.7	-0.9	2.6	4.1	3.4	-22.2	-19.0	-6.4	5.2	1.7	4.9	-33.1
STD ERROR	2.5	2.8	2.2	3.1	1.7	1.6	5.4	5.1	3.6	5.7	3.0	2.8	3.1	0.9	5.6	12.8	3.3	3.8	3.5	3.2	7.8
EXPR: 0912 NATL % 81.4 (Test for this exercise was not released)																				
UNADJ EFFECT	-5.7	-2.0	6.4	-1.0	5.7	-4.4	7.6	-11.9	10.9	-10.4	0.9	1.8	-4.0	3.8	-15.5	-19.7	-9.2	1.3	1.6	12.7	-28.1
STD ERROR	3.2	3.4	2.2	3.5	1.9	1.7	3.0	5.3	4.1	6.7	4.3	3.1	4.0	0.8	4.2	12.1	2.4	4.1	3.6	2.5	11.5
BAL EFFECT	-5.9	-1.0	5.7	-0.6	5.8	-4.9	7.9	-2.3	4.1	-7.2	-2.8	1.4	-2.7	2.4	-10.1	-19.4	-7.1	1.7	-1.1	11.8	-23.1
STD ERROR	2.8	4.0	2.3	4.1	1.9	1.7	3.1	4.1	4.3	7.8	4.5	2.9	3.4	0.9	4.4	4.6	2.8	4.5	3.6	2.4	10.9

EXER: 0913 NATL % 77.5 (Text for this exercise was not released)

UNADJ EFFECT	5.6	-20.5	1.5	5.3	12.2	-11.2	-0.3	-15.6	11.8	3.3	-0.8	-5.2	1.6	3.8	-27.6	-18.9	-9.6	-0.2	5.3	9.3	-26.1
STD ERROR	2.6	2.8	2.4	2.8	1.8	1.7	4.9	5.6	3.2	6.0	3.2	2.6	2.9	0.7	6.1	12.8	3.5	2.7	2.6	2.7	6.1
BAL EFFECT	5.6	-13.8	0.3	1.9	10.7	-9.9	-0.2	-4.3	3.8	1.6	-1.6	-2.7	3.7	2.7	-19.5	-14.2	-8.2	-0.4	3.9	5.1	-22.2
STD ERROR	2.3	2.6	2.2	2.7	1.7	1.6	4.0	5.4	3.5	5.3	2.9	2.3	2.6	0.7	5.6	9.7	3.1	2.8	2.5	3.1	5.8

EXER: 0918 NATL % 75.7 (Text for this exercise was not released)

UNADJ EFFECT	6.4	-9.8	-3.7	5.0	2.8	-2.7	-8.8	-16.0	11.2	6.3	7.2	-8.4	-4.5	2.9	-18.8	-29.9	-10.4	-0.9	9.3	9.3	-33.6
STD ERROR	2.8	3.8	2.8	2.9	1.6	1.5	5.9	6.6	3.9	5.4	3.0	4.2	3.2	0.8	6.6	9.4	3.3	4.6	2.6	2.5	8.2
BAL EFFECT	6.0	-5.8	-4.8	3.8	2.6	-2.4	-5.3	-3.4	4.0	6.7	5.4	-7.0	-3.2	2.2	-10.3	-26.9	-5.8	-2.4	7.6	6.9	-18.7
STD ERROR	2.8	3.9	2.9	2.5	1.6	1.5	5.9	6.8	3.6	5.3	2.7	4.1	3.3	0.8	6.7	9.1	3.4	4.4	2.8	2.5	8.3

EXER: 0915 NATL % 74.1 (Text for this exercise was not released)

UNADJ EFFECT	-5.6	2.0	1.4	3.3	12.4	-10.5	0.8	6.7	0.1	-22.0	4.1	4.1	-3.0	1.5	-4.3	-23.8	-0.7	-4.5	3.8	1.2	-3.5
STD ERROR	3.8	3.0	3.0	4.3	2.1	1.8	6.1	5.3	7.9	10.3	4.9	3.2	4.2	1.2	6.6	13.6	3.2	4.5	3.3	4.6	9.8
BAL EFFECT	-3.4	0.4	0.2	3.8	12.2	-10.3	-1.2	11.8	-1.8	-21.3	3.2	5.0	-4.0	1.8	-5.5	-29.7	0.9	-6.7	1.3	2.9	-1.3
STD ERROR	3.4	2.9	2.6	4.2	2.1	1.7	5.9	6.4	7.0	10.5	4.4	3.4	4.2	1.1	6.1	14.1	2.8	4.2	3.2	3.7	9.2

EXER: 0916 NATL % 73.0 (Text for this exercise was not released)

UNADJ EFFECT	6.8	-3.9	-5.5	-0.1	0.8	-0.8	-3.5	-11.9	9.4	-8.5	2.0	0.2	-1.3	4.2	-29.6	-13.1	-18.8	1.0	8.5	11.0	-12.5
STD ERROR	2.9	4.3	3.0	4.2	2.0	1.9	7.1	5.9	5.5	6.8	2.9	3.5	4.1	0.9	5.0	8.8	2.5	3.4	3.1	3.1	9.0
BAL EFFECT	6.5	1.4	-5.4	-1.8	0.1	-0.1	-0.3	-1.0	3.6	-1.8	-1.9	1.7	-0.6	3.4	-24.9	-8.0	-11.7	1.1	6.8	7.7	-7.0
STD ERROR	2.5	3.9	3.0	4.0	1.9	1.8	6.5	6.0	4.8	5.0	3.0	2.8	4.0	0.9	5.4	8.3	2.5	3.2	3.2	3.1	8.7

EXER: 0917 NATL % 71.8 (Text for this exercise was not released)

UNADJ EFFECT	1.7	-7.9	3.3	0.2	3.0	-2.4	-7.2	-19.0	17.9	-9.2	-0.3	-2.7	-2.0	3.9	-24.5	-20.4	-18.5	4.3	2.4	17.1	-28.9
STD ERROR	2.9	4.0	2.9	3.5	1.4	1.7	5.6	7.3	3.2	6.3	4.1	3.1	3.8	0.8	6.3	12.5	3.5	3.3	3.5	2.5	9.4
BAL EFFECT	0.7	-2.5	2.3	-1.7	1.7	-1.6	-5.3	-5.9	10.2	-3.2	-1.9	-1.3	-1.1	2.5	-13.8	-18.0	-14.2	4.1	1.0	13.7	-23.0
STD ERROR	3.0	3.9	2.8	3.2	1.9	1.7	5.3	7.1	3.1	6.8	4.0	2.8	3.5	0.9	6.8	8.5	3.4	3.2	3.5	2.6	10.0

EXER: 0919 NATL % 65.1 (Text for this exercise was not released)

UNADJ EFFECT	2.8	-7.5	1.0	1.5	9.0	-8.0	2.8	-9.8	18.1	-8.0	-2.4	-1.1	-5.4	1.3	-9.0	-3.7	-1.2	-6.8	-5.4	11.7	-13.3
STD ERROR	3.8	4.1	2.9	4.5	2.5	2.2	5.7	6.3	3.6	7.0	3.7	5.4	4.1	1.0	5.3	15.1	3.8	5.3	4.0	3.3	8.7
BAL EFFECT	1.6	-8.5	2.3	3.2	8.7	-7.8	6.3	-5.5	11.5	-7.5	-3.8	2.5	-4.0	0.8	-3.2	-7.4	1.7	-2.1	-7.7	7.8	-11.4
STD ERROR	3.4	4.2	3.0	4.1	2.4	2.1	5.8	8.2	4.4	7.6	3.6	5.2	4.0	1.0	6.2	12.8	3.9	5.2	3.8	3.4	9.0

EXER: 0920 NATL % 64.7 (Text for this exercise was not released)

UNADJ EFFECT	-1.4	1.1	3.4	-3.1	10.0	-4.9	-3.3	-15.8	9.5	-11.[illegible]	-1.0	[illegible]	0.9	4.1	-27.8	-11.4	2.6	2.3	-2.0	2.3	-26.8
STD ERROR	3.2	5.1	3.3	4.2	2.7	2.4	6.8	6.7	4.1	7.2	3.8	[illegible]	4.6	1.0	5.2	18.3	3.6	3.8	3.2	4.0	8.1
BAL EFFECT	-2.1	-0.1	3.4	-1.3	10.5	-4.3	-4.8	-2.9	7.8	-4.9	-4.4	6.3	-2.3	4.0	-27.6	-9.7	6.4	7.1	-4.1	-2.4	-24.5
STD ERROR	2.5	5.4	3.5	4.3	2.6	2.3	7.1	6.5	5.0	6.9	4.2	3.0	4.4	1.0	5.5	15.0	3.9	4.1	3.1	4.5	8.4

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME APP SUB	INNER SUBURB	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: 0920 NATL % 64.2 (Text for this exercise was not released)																					
UNADJ EFFECT	3.5	-18.1	3.8	3.1	-8.0	7.3	-9.8	-16.9	24.6	-3.8	-2.1	0.5	-12.5	3.0	-22.0	-12.8	-13.2	-9.8	1.6	23.6	-18.7
STD ERROR	4.5	5.2	3.4	4.6	2.8	2.2	6.5	7.0	2.9	8.2	3.7	4.3	4.1	0.7	5.2	11.1	4.9	4.4	3.8	2.9	8.0
BAL EFFECT	2.7	-18.5	6.3	-2.2	-9.9	9.1	-7.3	-9.8	17.6	-2.5	-5.7	3.1	-7.2	1.0	-8.3	1.0	-9.7	-7.3	2.9	18.1	-37.7
STD ERROR	3.2	4.2	2.6	3.2	2.2	1.7	5.7	7.2	3.6	7.7	3.1	3.9	4.5	0.7	5.7	10.9	4.1	4.4	3.6	3.1	8.3
EXER: 0921 NATL % 63.1 (Text for this exercise was not released)																					
UNADJ EFFECT	8.2	-3.2	-2.3	-4.2	1.5	-1.3	-1.2	0.7	11.5	16.3	-18.5	6.9	-9.1	-0.8	6.0	-10.5	-1.6	4.8	1.8	-0.8	-12.2
STD ERROR	4.1	4.2	3.1	3.9	2.9	2.5	5.9	6.1	5.6	5.6	4.6	3.5	4.4	1.0	5.3	13.0	3.8	5.0	4.5	4.6	10.1
BAL EFFECT	7.2	-4.1	0.6	-7.1	1.7	-1.4	-0.2	1.8	12.8	18.5	-15.9	6.5	-8.3	-0.5	4.2	-9.8	-0.9	4.1	2.9	-2.9	-10.6
STD ERROR	4.1	4.2	3.3	4.0	2.8	2.3	6.1	6.3	5.2	5.5	4.9	3.6	4.6	1.1	5.1	16.1	2.9	4.8	4.5	3.9	9.7
EXER: 0922 NATL % 62.8 (Text for this exercise was not released)																					
UNADJ EFFECT	-2.2	-7.1	5.1	0.6	13.8	-12.9	15.7	-13.5	10.4	2.2	4.5	-10.4	-4.3	2.8	-20.1	-7.9	-12.7	-2.5	11.5	3.4	-1.2
STD ERROR	4.9	5.4	3.0	4.6	2.1	1.9	3.4	6.4	6.5	5.8	3.1	3.8	4.8	0.9	5.5	15.5	3.4	4.5	3.6	3.6	8.4
BAL EFFECT	-0.4	-0.5	2.8	-3.0	12.6	-11.8	14.3	-9.8	9.7	3.9	2.1	-9.0	-3.9	2.1	-18.8	-7.3	-7.6	-2.1	8.9	0.1	1.4
STD ERROR	4.4	4.5	2.8	4.1	2.2	1.7	4.1	5.7	6.7	5.5	3.0	3.5	4.3	0.9	5.8	14.4	3.6	4.2	3.6	3.7	7.3
EXER: 0923 NATL % 56.8 (Text for this exercise was not released)																					
UNADJ EFFECT	-8.6	-2.1	3.4	8.5	18.5	-16.5	-0.7	-19.6	5.2	-6.1	-1.4	4.0	3.4	3.9	-27.6	-14.7	-8.9	-6.9	9.3	2.9	-11.8
STD ERROR	4.3	4.5	3.5	4.2	2.3	2.2	6.6	7.5	6.4	7.5	4.0	3.9	4.6	1.0	5.2	12.8	4.1	4.2	4.3	4.4	8.1
BAL EFFECT	-8.6	-2.2	4.3	7.3	18.9	-16.9	-1.4	-6.0	-3.2	-4.1	-1.7	4.9	5.6	1.2	-21.4	-16.6	-4.6	-5.1	7.3	2.7	-8.9
STD ERROR	4.3	3.8	1.4	3.6	2.3	2.1	6.5	7.6	4.7	6.9	3.8	3.9	4.1	1.0	6.1	11.3	3.5	4.1	3.4	3.6	6.9
EXER: 0924 NATL % 56.3 (Text for this exercise was not released)																					
UNADJ EFFECT	4.0	-18.2	3.4	5.7	4.2	-3.8	-2.8	6.5	7.4	4.2	1.2	-9.5	-2.4	0.9	-4.9	-4.7	-7.3	-1.3	1.1	7.7	-4.6
STD ERROR	3.7	4.5	3.7	4.7	2.3	2.0	7.4	6.8	5.1	7.0	5.0	5.2	4.0	0.9	5.4	16.3	3.7	4.6	3.6	3.7	8.1
BAL EFFECT	4.0	-17.7	3.2	5.6	4.2	-3.7	2.1	9.2	0.7	3.5	-1.2	-6.1	2.2	0.9	-3.0	-10.4	-5.7	1.5	-1.3	6.4	-5.0
STD ERROR	4.1	5.3	3.8	4.5	2.1	1.8	6.8	6.7	5.0	7.5	4.6	5.2	4.1	1.0	5.2	15.7	4.0	4.4	3.6	3.5	8.1
EXER: 0925 NATL % 55.8 (Text for this exercise was not released)																					
UNADJ EFFECT	-0.1	-1.6	1.5	-0.3	10.1	-9.0	-4.7	-17.2	20.3	-17.6	-2.2	-1.3	3.6	2.9	-19.3	-8.9	-8.1	0.2	6.2	7.6	-29.8
STD ERROR	5.4	6.8	3.9	5.2	2.7	2.4	7.5	7.2	4.7	6.6	5.0	5.1	4.9	1.1	6.4	16.9	3.8	4.8	3.8	4.4	6.9
BAL EFFECT	-1.6	-1.4	1.9	0.9	9.3	-8.2	-3.2	-8.4	15.9	-12.7	-5.4	0.8	4.3	1.9	-12.9	-4.3	-5.0	5.8	4.9	2.0	-26.9
STD ERROR	4.4	7.0	4.5	5.4	2.6	2.3	7.6	7.0	5.3	7.0	5.7	5.1	5.2	1.0	5.7	16.8	4.0	4.2	3.6	4.4	7.6
EXER: 0926 NATL % 52.6 (Text for this exercise was not released)																					
UNADJ EFFECT	2.1	-7.4	6.2	-5.8	8.4	-7.1	-4.8	-9.1	7.5	-0.8	3.2	-0.2	-1.5	1.8	-7.2	-16.7	-5.4	-7.1	8.7	6.7	-15.6
STD ERROR	5.4	5.0	3.7	4.6	2.6	2.2	7.5	9.5	7.4	8.3	6.5	4.5	5.2	1.4	4.1	13.4	3.3	4.7	4.1	4.6	10.3
BAL EFFECT	2.6	-7.4	6.2	-6.6	8.8	-7.4	-5.8	-2.8	5.4	-1.9	-0.9	1.2	0.2	0.6	-1.1	-12.4	-4.2	-7.0	6.0	6.3	-10.9
STD ERROR	5.6	5.2	3.6	4.7	2.5	2.2	7.0	10.4	7.6	7.9	5.9	4.3	4.8	1.5	4.4	11.7	3.3	4.6	4.3	4.3	10.0

EXER: 0927 NATL % 50.0 (Text for this exercise was not released)

UNADJ EFFECT	3.1	-7.4	-3.0	6.4	2.8	-2.6	-12.3	-18.7	27.0	-7.7	-0.1	-1.4	-14.9	2.3	-19.1	1.7	-20.3	-0.5	0.5	23.1	-17.3
STD ERROR	4.4	3.8	3.3	3.9	2.5	2.3	5.6	6.2	3.4	5.5	3.7	3.9	3.5	0.8	5.4	11.3	3.4	5.5	4.5	3.4	7.8
BAL EFFECT	0.8	1.0	-3.4	2.9	2.8	-2.6	-8.6	-7.9	19.2	-8.1	-2.3	0.2	-9.9	0.7	-9.5	11.5	-17.8	1.5	-0.7	19.6	-12.8
STD ERROR	2.8	3.8	2.9	4.1	2.2	2.0	5.8	6.4	3.8	5.1	3.5	3.7	3.6	0.8	5.5	9.5	3.2	5.2	4.4	3.8	8.0

EXER: 0928 NATL % 49.7 (Text for this exercise was not released)

UNADJ EFFECT	-7.6	-4.4	1.9	10.4	9.6	-8.9	11.1	-5.9	12.0	-0.1	1.1	-8.9	-2.2	4.6	-25.7	-32.6	-14.2	2.2	9.8	8.5	-24.1
STD ERROR	2.9	5.8	3.1	4.8	2.6	2.4	5.7	5.4	6.6	6.2	3.3	3.4	3.5	0.7	4.4	6.0	3.1	4.4	3.7	4.1	7.7
BAL EFFECT	-5.5	2.4	-1.0	6.6	8.3	-7.7	10.3	6.7	8.5	6.9	-2.9	-8.4	-1.8	4.4	-23.8	-38.5	-8.5	2.5	6.6	5.1	-21.4
STD ERROR	2.5	5.7	2.8	3.8	2.4	2.1	5.1	5.3	4.6	4.8	3.7	3.3	3.8	0.8	4.6	5.9	3.0	4.1	3.6	3.8	7.3

EXER: 0929 NATL % 49.0 (Text for this exercise was not released)

UNADJ EFFECT	-0.4	-13.6	6.7	0.9	9.1	-8.3	-0.1	-24.7	8.4	-4.4	-0.5	3.5	-0.8	3.0	-22.5	-9.0	-17.6	-5.7	4.5	16.0	-4.0
STD ERROR	4.1	4.1	3.4	5.1	3.0	2.7	8.6	7.1	8.0	5.8	3.7	3.9	4.3	0.7	5.1	12.8	3.6	4.4	3.6	3.3	6.6
BAL EFFECT	-1.4	-7.0	6.9	-2.7	8.0	-7.3	-0.1	-13.3	1.8	-1.7	-2.0	4.4	1.9	1.3	-11.1	2.2	-14.3	-6.2	3.4	14.0	-2.3
STD ERROR	3.8	4.3	3.0	4.4	2.7	2.5	7.3	6.7	7.6	5.8	3.8	3.7	4.3	0.7	5.3	11.1	3.8	3.8	3.3	3.3	6.3

EXER: 0930 NATL % 48.9 (Text for this exercise was not released)

UNADJ EFFECT	-2.0	-7.1	0.8	7.8	9.1	-8.3	-0.7	-14.4	17.5	-5.8	-4.0	0.4	-5.4	3.3	-16.4	-17.1	-3.7	-9.1	-6.1	18.7	-17.3
STD ERROR	4.0	4.7	3.6	4.3	2.3	2.3	6.0	7.1	4.8	7.2	5.0	4.3	4.5	0.9	5.8	6.9	3.8	4.3	4.4	3.1	8.0
BAL EFFECT	-3.7	-3.7	0.8	6.7	9.8	-9.0	0.9	-4.8	18.0	-6.3	-4.0	-0.1	-4.3	2.4	-11.2	-20.7	-1.6	-6.1	-8.1	15.9	-12.9
STD ERROR	3.6	4.0	3.1	3.9	2.1	2.0	5.6	7.2	4.8	6.6	4.3	4.1	4.3	1.0	5.4	7.9	3.8	4.0	3.7	3.1	8.8

EXER: 0931 NATL % 48.7 (Text for this exercise was not released)

UNADJ EFFECT	9.3	-6.4	-4.6	-0.8	7.5	-6.6	-6.7	-10.0	16.8	-6.1	1.7	-5.2	-2.6	3.4	-21.1	-21.3	-11.6	-10.4	10.2	11.6	-18.4
STD ERROR	4.0	5.6	3.4	4.9	2.3	2.2	6.8	6.9	4.6	7.4	3.9	5.0	3.9	0.9	5.5	8.4	3.8	5.0	3.9	4.3	7.8
BAL EFFECT	9.7	-3.1	-5.5	-2.8	6.8	-6.3	-3.3	8.1	9.1	-7.0	-0.7	-3.1	-2.3	2.9	-19.9	-13.3	-8.5	-11.5	10.1	8.9	-19.2
STD ERROR	3.5	6.4	3.3	4.2	2.1	1.9	6.7	6.8	4.3	6.6	4.0	4.9	4.1	1.1	7.0	9.5	4.0	5.0	3.5	3.9	7.4

EXER: 0932 NATL % 43.4 (Text for this exercise was not released)

UNADJ EFFECT	6.1	-5.4	-3.7	2.4	11.8	-10.9	-18.4	-9.9	18.6	5.1	-3.2	-2.6	-5.4	3.2	-20.8	-8.2	-13.5	-3.9	6.4	18.2	-25.3
STD ERROR	3.1	2.8	3.1	4.0	2.2	2.0	6.3	6.0	3.9	6.5	3.8	4.0	3.5	0.9	4.6	10.5	2.8	4.5	3.7	3.2	6.1
BAL EFFECT	2.8	0.7	-2.4	-0.9	12.1	-11.1	-10.9	7.0	18.2	5.1	-5.7	-2.8	-4.5	2.8	-19.1	-4.6	-12.6	0.9	3.6	12.8	-23.1
STD ERROR	2.8	2.6	2.8	3.8	2.1	1.9	6.4	5.8	3.8	7.2	3.4	3.7	3.1	0.9	5.5	9.2	2.8	4.2	3.6	3.2	6.9

EXER: 0933 NATL % 36.1 (Text for this exercise was not released)

UNADJ EFFECT	8.2	-10.4	-2.8	2.2	6.3	-5.4	-11.7	-7.4	16.6	-3.5	-4.8	0.5	-3.7	1.3	-11.0	6.4	-10.0	-4.3	3.0	14.6	-21.1
STD ERROR	4.3	3.7	3.7	4.8	2.1	1.9	5.6	7.1	4.7	7.1	4.7	4.4	3.1	0.4	5.2	7.3	3.9	4.3	4.5	3.5	5.4
BAL EFFECT	7.4	-7.3	-3.4	1.5	6.7	-6.1	-10.1	2.9	7.9	-4.2	-5.4	2.5	1.1	0.5	-7.2	10.3	-9.4	-2.2	2.7	11.1	-20.1
STD ERROR	3.6	4.0	3.1	4.0	2.0	1.8	5.9	6.7	4.3	6.2	4.6	4.1	3.3	0.7	4.6	8.3	4.2	4.1	4.4	3.5	6.3

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME APP.SUB.	INNER SUB.	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	SOME	HS GRADUATED	POST	UNKNOWN
EXPR: 0934 NATL % 15.0 (Text for this exercise was not released)																				
UNADJ EFFECT	-0.4	-7.4	-0.1	6.5	9.0	-8.3	-3.9	-8.9	11.5	9.2	-2.6	-1.8	-2.2	1.2	-7.4	-10.9	-8.6	-9.7	3.6	8.8	-8.7
STD ERROR	2.5	2.7	2.8	6.2	2.1	2.1	8.9	5.6	6.6	5.6	3.0	2.7	3.6	0.5	3.8	5.8	2.9	2.7	3.2	3.9	8.5
BAL EFFECT	-1.4	-2.1	1.0	2.2	8.6	-7.9	-3.4	-3.7	7.1	9.9	-1.9	-3.2	-2.1	0.6	-2.9	-10.9	-1.9	-10.5	3.3	5.4	-5.2
STD ERROR	2.3	2.4	2.3	8.8	1.8	1.8	4.6	5.0	5.1	5.9	2.6	2.5	3.2	0.5	3.7	5.9	2.6	2.7	2.9	2.7	8.1
EXPR: 0935 NATL % 11.8 (Text for this exercise was not released)																					
UNADJ EFFECT	10.6	-8.5	-2.1	-2.1	11.8	-10.9	-13.5	-16.1	18.4	5.5	-0.8	3.8	-11.3	3.9	-19.3	-20.8	-11.5	-6.5	6.3	12.9	-14.3
STD ERROR	3.0	3.3	2.9	3.3	3.7	3.8	3.9	6.5	5.8	5.3	3.3	3.8	2.9	0.8	8.8	8.1	3.8	4.5	3.8	3.8	5.6
BAL EFFECT	7.5	-3.0	-2.1	-3.5	11.9	-11.0	-9.8	-3.7	10.3	8.2	-2.0	3.3	-10.5	3.2	-15.5	-17.6	-8.6	-2.2	2.8	10.7	-16.8
STD ERROR	2.7	3.6	2.5	2.8	3.6	3.7	8.0	5.5	8.8	5.5	8.1	3.4	2.7	0.8	8.1	8.9	3.0	8.2	3.7	3.3	5.8
EXPR: 0936 NATL % 20.2 (Text for this exercise was not released)																					
UNADJ EFFECT	7.1	-9.3	0.8	-3.3	2.7	-2.5	-8.7	2.8	8.6	-1.1	0.5	-0.0	-5.5	2.0	-13.7	-6.6	-0.9	8.8	-3.1	8.3	-15.8
STD ERROR	3.8	3.1	2.7	3.2	2.0	1.8	3.6	6.9	8.8	5.7	3.8	3.8	2.8	0.5	3.0	5.7	2.8	5.3	3.1	8.0	3.7
BAL EFFECT	6.5	-6.9	0.8	-2.6	2.9	-2.7	-8.8	7.8	5.6	-0.0	-0.8	0.3	-5.8	2.1	-18.1	-6.9	3.5	8.3	-8.7	3.8	-11.3
STD ERROR	3.1	3.2	2.7	3.7	2.0	1.9	8.2	7.5	8.8	5.5	3.4	3.5	3.0	0.7	8.6	6.2	3.0	8.5	3.0	8.2	8.2
EXPR: 0937 NATL % 29.9 (Text for this exercise was not released)																					
UNADJ EFFECT	1.2	5.6	-6.7	2.0	3.1	-2.8	-3.8	-7.0	11.4	-7.5	-8.9	8.2	-2.7	1.7	-11.8	-6.0	-5.5	-2.8	-0.6	8.8	-7.7
STD ERROR	2.9	8.0	2.3	3.9	2.5	2.3	8.7	6.2	8.3	5.3	2.9	8.0	3.3	0.6	3.2	9.7	3.8	8.5	3.0	3.8	9.1
BAL EFFECT	0.9	7.8	-6.9	0.9	2.8	-2.5	-3.7	0.8	6.9	-8.5	-3.8	8.2	-3.6	1.6	-10.8	-6.2	-3.6	-2.1	-0.6	6.3	-7.3
STD ERROR	2.9	8.6	2.5	8.0	2.5	2.3	8.8	6.6	8.4	5.6	3.0	8.1	3.3	0.8	3.7	12.1	8.0	8.8	2.9	3.8	9.6
EXPR: 0938 NATL % 27.2 (Text for this exercise was not released)																					
UNADJ EFFECT	-0.6	-8.6	0.3	8.8	9.9	-9.3	-8.3	-15.7	18.3	-8.8	-0.7	-0.9	-1.5	2.8	-16.6	-9.1	-5.6	-6.4	3.7	8.8	-19.5
STD ERROR	3.2	3.3	3.3	3.8	2.3	2.3	5.1	3.8	3.9	8.2	3.6	3.9	3.9	0.8	3.7	7.9	2.9	8.2	3.5	3.2	5.6
BAL EFFECT	-2.8	-1.5	0.3	8.3	10.3	-9.5	-2.3	-7.3	12.0	-9.3	-1.8	-1.3	-0.6	2.3	-10.5	-10.8	-8.3	-3.6	3.6	6.9	-10.8
STD ERROR	3.2	3.2	3.2	3.8	2.3	3.9	5.5	8.8	8.0	5.3	3.6	3.6	3.8	0.8	8.8	8.6	3.0	3.8	3.6	3.3	6.8
EXPR: 0939 NATL % 25.7 (Text for this exercise was not released)																					
UNADJ EFFECT	1.6	-8.9	-1.0	3.2	12.8	-11.7	-12.9	-10.2	18.9	-7.3	-8.2	5.7	-5.1	3.6	-20.8	-22.9	-18.6	-2.8	1.8	15.7	-18.8
STD ERROR	3.1	8.2	3.1	3.8	3.7	3.6	5.1	7.1	5.3	8.5	8.2	8.5	8.0	0.6	2.8	3.3	2.7	3.7	2.9	3.7	6.8
BAL EFFECT	0.9	-0.0	-2.8	1.8	12.5	-11.5	-13.8	5.0	8.8	-2.3	-3.8	6.7	-3.8	2.9	-15.6	-21.8	-10.3	-3.8	0.3	13.6	-12.1
STD ERROR	2.6	3.8	2.8	3.0	3.8	3.7	8.3	5.7	8.9	8.8	3.8	3.6	3.7	0.6	3.8	8.8	2.7	3.9	2.8	3.2	6.3
EXPR: 0940 NATL % 33.5 (Text for this exercise was not released)																					
UNADJ EFFECT	-8.3	-8.3	0.3	7.8	10.7	-9.5	3.7	-8.7	11.5	-2.6	3.0	-12.7	3.3	0.2	-7.5	18.3	-10.8	-3.2	2.9	12.9	-20.6
STD ERROR	8.7	8.7	3.3	8.0	2.8	2.5	6.7	6.5	7.3	6.2	8.8	8.0	8.5	3.3	3.8	15.8	8.3	8.3	8.0	8.3	6.2
BAL EFFECT	-8.5	-2.8	0.2	6.8	9.9	-8.8	6.5	-0.3	3.3	-2.7	3.0	-8.8	8.7	-0.7	-0.8	13.8	-9.6	0.8	2.5	10.3	-21.2
STD ERROR	3.3	8.5	2.8	8.3	2.8	2.3	5.9	6.2	6.8	7.6	8.3	3.5	8.0	3.3	8.8	16.5	3.8	8.2	3.8	3.8	6.6

EXPR: 0941 NATL % 19.8 (Text for this exercise was not released)

UNADJ EFFECT	-0.9	-1.9	-0.1	2.9	8.6	-7.9	-9.9	-2.7	15.7	-1.7	-7.0	3.6	-6.8	1.0	-7.0	-8.5	-7.8	-8.7	8.6	7.9	-7.7
STD ERROR	3.5	3.1	3.0	4.1	2.0	1.8	3.7	6.0	3.7	5.8	3.1	3.2	3.1	0.5	4.2	8.0	2.6	3.7	3.5	3.3	8.4
BAL EFFECT	-1.8	0.7	-0.6	2.4	8.4	-7.6	-10.5	3.2	11.8	-0.2	-6.8	3.4	-8.6	0.7	-8.7	-3.3	-6.1	-8.8	8.0	6.5	-8.7
STD ERROR	2.1	2.8	2.4	3.6	2.0	1.8	4.1	6.4	3.8	4.9	3.0	3.2	2.9	0.6	4.3	7.1	2.6	3.4	3.5	3.6	4.3

EXPR: 0942 NATL % 15.5 (Text for this exercise was not released)

UNADJ EFFECT	-2.1	3.9	1.2	-8.2	1.6	-1.8	-8.8	-7.5	10.2	-10.1	6.6	-2.2	-1.1	1.8	-8.7	-9.8	-6.0	-0.2	-1.8	9.9	-9.1
STD ERROR	2.6	4.3	2.6	2.9	2.1	1.8	5.1	2.8	7.4	4.0	4.6	3.2	3.0	0.6	2.9	5.2	2.3	4.8	3.6	4.0	7.2
BAL EFFECT	-2.2	4.9	0.1	-3.1	1.9	-1.6	-4.5	-1.1	6.6	-7.9	5.8	-1.9	-1.0	1.2	-5.6	-6.8	-8.8	-0.8	-3.8	9.3	-8.3
STD ERROR	3.1	4.5	2.6	3.0	2.1	1.8	4.8	3.1	6.4	4.1	4.8	3.2	3.5	0.7	3.8	7.0	2.2	4.4	3.5	3.7	7.7

EXPR: 0943 NATL % 15.1 (Text for this exercise was not released)

UNADJ EFFECT	1.0	1.8	-8.6	2.9	7.0	-6.5	-3.0	-9.6	16.9	-1.6	-5.8	-1.0	-2.9	0.8	-2.6	-9.7	-6.0	2.3	-1.3	7.2	-10.0
STD ERROR	2.6	5.4	2.2	3.3	1.9	1.8	3.7	3.1	4.1	8.4	2.7	2.9	2.8	0.5	4.2	3.6	2.0	4.5	2.6	2.8	3.5
BAL EFFECT	-0.2	3.7	-3.9	2.1	6.2	-5.7	-3.6	-6.2	13.4	-1.1	-4.2	-1.1	-2.8	0.5	0.8	-12.0	-3.1	1.9	-0.6	4.1	-9.6
STD ERROR	2.2	4.5	2.0	3.0	1.8	1.6	4.2	4.0	4.1	5.0	2.4	2.8	3.0	0.6	4.5	5.0	1.8	4.3	2.2	2.4	4.4

EXPR: 0944 NATL % 14.0 (Text for this exercise was not released)

UNADJ EFFECT	4.0	-4.7	-3.3	4.3	-0.1	0.1	1.7	-0.0	15.6	-1.0	-3.5	-2.7	-3.7	-0.3	-1.1	9.0	-4.2	2.8	-1.9	6.0	-8.3
STD ERROR	2.6	2.1	2.0	3.2	1.6	1.5	5.0	6.3	5.3	4.0	2.7	2.8	2.1	0.7	2.9	15.3	1.9	3.4	2.3	2.6	2.9
BAL EFFECT	3.5	-2.2	-2.4	2.0	-0.1	0.1	2.8	1.6	12.3	-2.1	-3.6	-2.1	-1.9	-0.2	0.2	5.3	-2.9	2.9	-1.6	4.2	-7.4
STD ERROR	2.1	1.9	1.9	3.5	1.4	1.3	5.2	7.8	5.1	4.2	2.7	2.6	2.0	0.8	4.0	13.3	2.0	3.5	2.4	2.4	2.9

EXPR: 0945 NATL % 12.1 (Text for this exercise was not released)

UNADJ EFFECT	-0.8	-2.8	-0.5	4.0	-1.2	1.1	0.5	-8.9	5.3	-6.3	-1.4	3.0	-1.8	1.3	-8.7	-6.5	-5.2	0.1	-2.7	8.0	-3.4
STD ERROR	2.5	2.6	2.0	3.1	1.8	1.6	5.3	2.4	5.7	4.2	3.4	2.9	1.9	0.4	1.8	6.4	1.9	2.9	3.5	3.5	5.3
BAL EFFECT	-0.8	-1.9	-0.6	3.3	-1.3	1.2	2.2	-4.9	3.4	-7.1	-2.8	4.0	-0.2	0.9	-5.5	-4.5	-4.4	1.0	-3.3	6.6	-1.0
STD ERROR	2.8	2.4	1.9	3.6	1.6	1.5	5.2	2.6	6.2	4.3	3.3	2.8	1.9	0.4	1.9	5.9	1.8	2.9	3.4	3.8	5.4

EXPR: 0946 NATL % 11.5 (Text for this exercise was not released)

UNADJ EFFECT	-3.1	2.2	-1.4	3.5	0.2	-0.2	-7.3	7.6	6.0	-4.9	-1.5	2.8	-5.5	0.9	-2.9	-9.3	-5.3	5.2	-0.6	8.2	-9.7
STD ERROR	2.1	4.1	2.2	2.9	1.5	1.3	2.6	6.3	4.7	3.8	2.3	3.4	2.2	0.5	3.8	2.5	1.9	3.8	2.6	3.0	2.1
BAL EFFECT	-3.7	2.8	-0.9	3.1	0.2	-0.1	-6.2	10.5	5.2	-1.9	-2.9	2.5	-5.0	1.1	-5.0	-8.4	-3.9	5.3	-0.4	2.7	-10.3
STD ERROR	2.2	3.6	2.1	2.7	1.5	1.3	2.7	6.2	4.3	4.2	2.3	3.0	2.4	0.6	3.8	3.9	1.8	3.6	2.6	2.8	2.8

EXPR: 0947 NATL % 11.3 (Text for this exercise was not released)

UNADJ EFFECT	3.7	-6.0	-2.2	3.5	2.0	-1.9	-0.8	-0.4	16.8	-5.4	-2.4	-1.1	-5.0	0.4	-4.0	2.4	-3.2	-0.4	-0.9	3.3	8.6
STD ERROR	3.7	2.2	2.3	2.8	1.2	1.1	4.5	5.1	6.8	2.0	2.5	2.5	2.2	0.6	2.9	9.5	1.9	3.7	2.8	2.2	7.7
BAL EFFECT	2.9	-5.6	-1.6	3.3	1.9	-1.7	-1.0	-0.7	16.0	-7.7	-1.8	-1.0	-3.8	0.2	-1.5	-0.5	-1.0	-0.9	-0.4	-0.1	11.0
STD ERROR	2.5	1.7	2.2	2.5	1.1	1.0	4.8	5.3	6.4	2.5	2.4	2.4	2.1	0.6	2.7	8.9	1.5	3.1	2.6	2.4	7.2

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AVE SUB.	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: 0948 NATL % 9.2 (Text for this exercise was not released)																					
UNADJ EFFECT	-1.8	-0.1	-2.3	6.2	6.0	-5.9	-7.6	-8.8	11.7	0.6	-1.8	-3.1	-1.4	-0.3	1.7	-4.2	-2.1	2.9	-1.8	3.5	-9.2
STD ERROR	2.6	3.3	2.2	5.8	2.0	2.0	2.2	2.0	6.6	4.4	2.2	2.7	3.0	0.8	6.8	3.9	2.6	4.6	2.1	4.1	1.9
BAL EFFECT	-2.6	2.2	-1.3	4.1	5.8	-5.3	-7.8	-9.0	11.7	0.0	-0.4	-2.5	-1.6	-0.6	5.6	-3.8	-0.4	2.8	-1.1	0.9	-6.7
STD ERROR	2.3	3.1	1.8	4.2	1.5	1.4	2.1	3.4	5.0	4.5	1.9	2.5	3.0	0.8	5.8	4.8	2.2	3.8	1.9	2.7	2.0
EXER: 0949 NATL % 6.2 (Text for this exercise was not released)																					
UNADJ EFFECT	1.1	1.5	-0.7	-1.7	1.1	-1.0	3.6	0.8	1.0	2.7	-3.5	-1.8	5.4	-0.0	0.9	-1.3	-0.4	1.9	-0.3	-0.9	2.7
STD ERROR	1.5	1.4	1.2	1.3	0.9	0.8	3.9	3.1	2.4	4.0	1.2	1.2	2.6	0.3	2.9	3.1	1.3	2.7	1.4	1.7	4.5
BAL EFFECT	1.3	0.5	-0.4	-1.6	0.9	-0.8	3.6	0.4	1.1	2.8	-3.7	-1.8	5.4	0.0	0.4	-2.0	-0.8	2.0	0.1	-1.1	3.4
STD ERROR	1.4	1.7	1.2	1.5	0.9	0.9	4.1	4.0	2.3	4.2	1.3	1.2	2.7	0.5	3.5	3.6	1.3	2.8	1.5	1.7	4.5
EXER: 0950 NATL % 57.8 (Text for this exercise was not released)																					
UNADJ EFFECT	-2.4	-7.2	1.1	7.7	0.7	-0.5	-9.0	0.9	7.5	-6.6	-5.0	6.3	-2.1	1.6	-9.0	-11.1	-10.2	-0.5	-0.2	11.1	-6.1
STD ERROR	3.5	5.2	3.3	4.8	2.5	2.3	6.9	8.2	5.9	7.3	3.8	3.7	4.1	0.7	5.9	12.4	3.6	4.8	3.2	3.1	9.6
BAL EFFECT	-2.2	-6.5	1.1	6.9	0.2	-0.2	-6.3	5.7	2.2	-5.6	-5.6	7.3	0.3	1.2	-5.0	-12.5	-7.9	-1.1	-1.1	9.9	-4.8
STD ERROR	3.5	4.9	3.4	5.6	2.5	2.3	6.9	8.9	6.3	7.1	3.9	3.8	4.1	0.8	4.9	11.7	3.7	5.0	3.4	3.1	9.5
EXER: 0951 NATL % 5.2 (Text for this exercise was not released)																					
UNADJ EFFECT	-2.8	5.8	0.1	-1.6	1.9	-1.8	-5.2	-0.1	1.1	-1.0	0.4	0.6	-0.0	0.5	-2.4	-4.2	-2.9	-3.2	5.3	0.0	0.5
STD ERROR	1.4	1.7	1.7	1.4	1.3	1.1	1.2	2.9	1.9	2.5	2.3	2.2	2.0	0.3	2.1	1.2	1.4	1.3	2.7	1.7	1.8
BAL EFFECT	-3.5	7.1	0.3	-2.0	1.7	-1.6	-4.8	1.6	2.1	2.1	-0.2	-0.4	-1.0	0.5	-3.4	-2.2	-3.2	-2.8	5.1	0.1	1.2
STD ERROR	1.4	4.1	1.7	1.6	1.3	1.1	1.6	2.4	1.8	2.5	2.2	2.1	2.3	0.3	2.0	2.0	1.5	1.2	2.3	1.6	1.5
OBJECTIVE: Possess the ability and skills needed to engage in the processes of science.																					
EXER: 0952 NATL % 94.2 (Text for this exercise was not released)																					
UNADJ EFFECT	-0.7	-5.8	2.4	2.4	0.9	-0.8	-9.2	-9.1	2.7	-1.5	2.0	1.2	-0.1	2.7	-17.7	-11.7	-5.0	2.1	3.5	8.6	-29.9
STD ERROR	1.5	2.0	1.2	1.3	0.8	0.8	4.0	4.8	2.1	3.3	1.3	1.4	1.3	0.5	3.8	5.9	1.8	1.6	1.2	1.0	10.1
BAL EFFECT	-0.7	-2.4	0.7	2.0	0.9	-0.8	-9.0	-0.1	-0.3	2.1	0.5	1.9	-0.6	2.2	-13.8	-10.2	-2.5	2.5	1.5	1.6	-25.9
STD ERROR	1.5	1.7	0.9	1.3	0.7	0.7	3.5	4.1	2.5	3.4	1.0	1.2	1.1	0.5	3.6	4.6	1.6	1.5	1.4	1.1	10.2
EXER: 0953 NATL % 93.4 (Text for this exercise was not released)																					
UNADJ EFFECT	-1.0	-4.5	1.8	3.8	-0.4	0.1	-6.1	-2.1	5.4	1.4	5.1	-4.5	-0.1	3.0	-15.7	-5.6	-2.1	1.5	0.1	5.2	-27.0
STD ERROR	2.1	2.4	1.6	1.7	1.1	1.0	3.4	4.3	1.5	2.6	1.4	2.8	1.7	0.9	5.5	8.4	1.9	2.1	2.4	1.2	10.5
BAL EFFECT	-1.9	-2.0	0.7	4.4	-0.2	0.2	-6.4	6.6	3.0	3.1	3.1	-5.1	-10.5	3.0	-15.7	-6.2	0.1	2.9	-2.1	3.1	-24.6
STD ERROR	2.1	2.0	1.6	2.2	1.0	0.9	3.4	5.0	1.6	3.5	1.5	2.6	1.6	1.0	5.5	7.1	1.9	2.1	2.4	1.1	10.1
EXER: 0954 NATL % 79.9 (Text for this exercise was not released)																					
UNADJ EFFECT	1.9	-17.5	0.9	9.5	7.9	-7.2	1.6	-15.1	6.6	-2.8	-3.0	4.4	-1.6	3.2	-22.4	-20.6	-12.3	0.1	1.2	12.0	-11.6
STD ERROR	3.0	5.7	2.7	2.9	1.9	1.8	3.6	7.4	3.3	6.4	4.5	3.0	4.3	0.8	6.2	11.5	2.9	4.9	2.6	2.2	7.3
BAL EFFECT	1.4	-13.8	0.3	8.3	6.4	-5.4	3.4	-5.6	-1.5	-4.4	-3.7	6.2	2.1	2.1	-13.8	-17.8	-8.3	1.0	0.2	8.5	-10.1
STD ERROR	3.3	6.5	2.9	2.7	1.6	1.6	3.2	7.5	4.1	6.3	4.0	3.1	4.3	1.0	7.7	10.7	3.0	4.1	2.4	2.4	6.6

EXER: 0955 NATL % 71.8 (Text for this exercise was not released)

UNADJ EFFECT	-4.6	4.4	0.7	1.9	13.5	-12.4	5.2	-46.4	7.5	-6.3	8.9	3.4	-7.3	3.4	-20.0	-16.0	-0.4	5.0	-0.3	2.9	-76.8
STD ERROR	6.6	7.4	7.3	7.7	4.3	4.0	5.8	19.6	23.4	9.2	8.8	9.1	12.0	1.6	10.2	21.4	6.0	9.5	5.6	5.4	20.2
BAL EFFECT	-4.6	-1.4	3.0	3.0	13.8	-12.8	6.4	-43.0	-0.8	-4.6	4.3	6.8	-8.9	2.7	-15.7	-12.2	0.6	5.6	-2.8	3.3	-22.9
STD ERROR	6.4	9.1	8.2	11.9	4.0	3.7	6.7	15.0	23.4	10.2	12.2	9.8	11.8	1.4	9.0	20.7	5.7	9.5	4.9	6.3	36.3

EXER: 0956 NATL % 56.8 (Text for this exercise was not released)

UNADJ EFFECT	-3.3	-12.8	14.2	-2.7	1.3	-0.9	-13.7	-42.4	-56.8	0.1	13.0	9.5	2.7	9.1	-41.7	4.7	-5.1	-15.0	10.4	9.2	-41.3
STD ERROR	7.0	4.9	6.2	9.6	4.0	2.9	7.6	8.1	4.3	13.5	9.3	7.2	11.8	2.4	5.9	19.1	6.9	10.1	6.5	5.9	15.2
BAL EFFECT	0.1	-8.6	9.0	-2.9	-3.6	2.6	-13.1	-24.9	34.9	1.8	8.4	12.4	-8.6	7.1	-33.4	7.9	3.6	-14.4	1.3	9.4	-48.8
STD ERROR	7.3	6.0	6.3	9.6	4.1	2.9	7.9	9.9	8.7	11.6	10.4	6.4	10.5	2.2	7.0	15.9	7.3	10.3	6.8	5.0	11.9

EXER: 0957 NATL % 54.2 (Text for this exercise was not released)

UNADJ EFFECT	3.0	-14.8	9.9	-0.6	7.1	-5.2	-8.9	-42.0	38.8	8.7	7.7	10.9	-7.5	8.0	-37.4	7.3	-9.3	-8.1	5.9	14.7	-54.2
STD ERROR	7.3	5.4	6.9	8.9	4.5	3.1	7.8	8.3	8.3	13.6	12.6	7.1	11.9	2.4	5.9	19.2	7.1	10.5	6.9	6.4	4.7
BAL EFFECT	5.4	-12.9	7.3	-3.1	4.4	-3.2	-6.4	-28.6	27.0	10.4	2.9	13.1	-16.0	6.6	-29.2	-2.8	-0.1	-6.4	-2.3	12.7	-45.4
STD ERROR	7.4	7.0	6.9	10.1	4.5	3.3	8.2	10.8	7.4	13.4	12.1	6.3	11.2	2.3	7.2	13.4	7.3	10.1	6.3	5.8	11.3

EXER: 0958 NATL % 50.9 (Text for this exercise was not released)

UNADJ EFFECT	-0.6	-10.0	1.0	7.1	5.6	-5.1	-13.1	-11.4	22.5	5.5	-7.4	4.7	-13.5	3.6	-26.9	-13.4	-15.2	-13.9	-2.1	29.7	-31.2
STD ERROR	3.5	4.7	3.1	4.6	2.0	2.0	4.5	6.3	4.1	5.9	3.6	3.4	4.0	0.9	5.1	11.5	3.7	5.5	4.1	3.0	7.5
BAL EFFECT	-2.6	0.2	3.8	-2.0	4.8	-4.4	-12.5	4.1	11.5	10.1	-7.6	5.7	-11.5	2.3	-18.0	-2.3	-12.1	-13.3	-1.4	25.4	-27.6
STD ERROR	2.9	4.3	2.9	3.6	1.8	1.7	4.6	6.4	5.5	6.0	3.3	2.4	4.0	0.9	6.0	11.5	4.3	5.6	4.1	3.9	6.9

EXER: 0959 NATL % 42.9 (Text for this exercise was not released)

UNADJ EFFECT	-3.7	-2.3	2.5	3.3	1.7	-1.6	-9.0	-15.2	6.1	-10.1	3.8	1.7	-0.5	4.3	-22.9	-20.2	-7.1	-7.1	0.2	13.0	-8.9
STD ERROR	4.8	3.5	3.4	5.5	2.8	2.6	6.1	7.8	8.5	7.1	3.7	4.0	4.1	1.0	5.2	10.6	3.2	4.5	4.3	3.1	7.5
BAL EFFECT	-5.1	-0.1	1.4	4.3	2.1	-2.0	-8.4	-0.5	2.5	-7.4	2.5	0.6	-0.5	3.9	-19.8	-20.4	-4.4	-6.6	-1.3	10.8	-5.6
STD ERROR	4.8	3.5	3.4	4.8	2.7	2.5	6.8	8.7	7.7	7.3	3.8	3.8	3.9	0.9	5.4	11.0	3.3	4.5	4.1	3.0	7.7

EXER: 0960 NATL % 29.8 (Text for this exercise was not released)

UNADJ EFFECT	-5.0	-12.2	14.7	-5.4	6.9	-6.4	-8.5	-27.0	29.8	-0.8	7.8	6.8	-9.0	3.1	-17.8	-19.2	0.3	-18.8	1.6	5.7	2.6
STD ERROR	6.1	6.3	6.6	5.9	2.8	3.0	5.0	4.9	46.1	5.8	8.8	7.3	9.6	1.7	7.6	8.9	5.4	6.8	5.9	5.9	20.9
BAL EFFECT	0.1	-14.2	15.7	-12.1	9.4	-8.7	-11.7	-23.2	25.1	1.6	-3.8	18.3	-10.2	3.3	-20.0	-11.7	9.2	-18.9	-6.9	5.9	5.5
STD ERROR	5.8	8.3	7.8	8.6	3.1	2.8	5.5	8.6	41.2	7.8	9.1	7.5	10.1	1.8	10.8	12.7	5.3	5.8	6.5	6.1	21.2

EXER: 0961 NATL % 23.6 (Text for this exercise was not released)

UNADJ EFFECT	-8.1	-4.4	4.7	7.5	11.8	-10.9	-9.0	-23.6	15.5	-4.3	8.8	6.4	-2.0	3.1	-18.3	-12.4	-11.7	-18.1	9.5	12.7	6.0
STD ERROR	6.1	6.8	5.8	7.1	3.9	4.3	5.4	4.5	30.5	7.3	8.6	6.3	10.5	1.4	5.4	13.0	4.7	4.6	6.5	5.4	19.4
BAL EFFECT	-3.3	-3.0	2.9	2.6	12.7	-11.7	-5.1	-22.3	9.4	-2.8	-0.8	40.6	-2.0	2.9	-16.4	-16.4	-8.2	-19.4	5.2	12.9	11.2
STD ERROR	6.0	9.2	5.2	10.8	4.5	4.4	12.3	10.0	32.6	10.2	10.2	6.0	9.2	1.4	7.8	14.3	4.0	5.7	6.2	6.0	29.9

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME APP SUB	INNER SUB-URBS	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: 0962 NATL % 22.2 (Text for this exercise was not released)																					
UNADJ EFFECT	-3.6	-8.4	11.6	-4.8	10.0	-7.3	-16.9	-22.2	52.7	28.8	11.8	-12.8	-0.5	3.4	-20.3	31.9	-7.6	-19.0	5.9	17.1	-22.2
STD ERROR	5.1	5.9	5.7	5.5	3.9	2.8	4.5	3.8	11.8	14.3	8.1	5.7	11.3	1.3	3.8	20.7	5.4	3.6	7.3	6.5	3.8
BAL EFFECT	-4.8	-4.8	10.2	-6.3	6.1	-4.5	-14.6	-16.1	41.2	25.3	10.5	-9.7	-4.2	1.9	-12.1	22.9	-1.1	-9.3	-2.8	11.2	-11.0
STD ERROR	4.8	5.9	5.0	5.2	3.7	2.8	4.8	5.5	16.6	18.3	7.1	5.2	10.5	1.4	6.0	10.1	4.9	3.5	5.6	5.0	16.4
EXER: 0963 NATL % 20.1 (Text for this exercise was not released)																					
UNADJ EFFECT	-1.8	-17.1	7.9	4.3	0.9	-0.9	3.6	3.1	-0.6	4.6	9.6	-6.8	-13.6	0.0	-6.3	42.2	-6.0	-8.0	13.6	-0.8	-10.5
STD ERROR	5.0	3.8	5.7	6.5	3.8	3.5	6.1	11.5	16.4	7.5	8.4	6.4	4.5	1.1	5.3	21.5	4.6	7.2	7.9	4.6	7.8
BAL EFFECT	-3.9	-13.8	6.0	7.3	0.2	-0.2	10.0	-3.2	-11.7	4.3	10.0	-7.7	-16.7	-1.2	1.8	39.7	-5.6	-2.2	12.1	-2.1	-15.3
STD ERROR	5.3	4.3	5.4	6.7	4.1	3.8	6.2	17.0	18.2	8.1	7.5	6.4	5.3	1.1	6.9	21.1	4.9	7.5	8.2	5.4	11.3
EXER: 0964 NATL % 18.1 (Text for this exercise was not released)																					
UNADJ EFFECT	1.7	-1.7	0.9	-2.5	4.9	-3.6	-12.0	-19.1	28.8	11.8	10.4	-2.5	-0.1	4.2	-16.2	-18.1	-5.6	-10.8	10.2	4.9	-18.1
STD ERROR	5.0	5.9	5.4	6.9	3.7	2.7	4.3	3.7	20.3	11.2	9.3	6.3	10.8	1.1	3.8	3.7	4.9	4.9	6.6	6.2	3.7
BAL EFFECT	3.1	0.1	-2.0	-1.8	1.1	-0.8	-11.2	-9.9	23.1	15.6	5.5	-0.9	-5.2	3.9	-11.9	-11.5	0.2	-7.3	3.8	3.0	-14.4
STD ERROR	5.5	7.0	5.2	6.7	4.3	3.2	5.3	4.5	17.6	10.8	10.1	6.4	10.9	1.7	6.4	11.5	4.9	4.9	5.8	5.9	7.1
OBJECTIVE: Understand the investigative nature of science.																					
EXER: 0965 NATL % 56.5 (Text for this exercise was not released)																					
UNADJ EFFECT	2.2	-17.4	2.0	7.2	7.3	-6.7	-7.6	-8.5	11.0	6.3	-0.6	0.3	-8.7	3.8	-26.3	-26.3	-15.1	-5.6	-2.6	20.5	-8.8
STD ERROR	3.3	4.5	3.7	4.3	2.4	2.5	7.1	8.0	5.3	6.7	3.5	3.9	5.0	0.8	4.6	9.8	3.9	5.1	4.0	2.6	6.7
BAL EFFECT	0.3	-8.6	2.5	2.5	6.5	-6.0	-5.5	6.1	1.2	8.1	-0.8	0.7	-5.9	2.9	-19.3	-22.4	-11.0	-5.6	-4.2	17.4	-4.6
STD ERROR	3.2	4.4	3.4	4.0	2.2	2.3	6.3	7.5	4.9	6.2	3.8	3.6	5.2	0.8	5.1	8.8	3.9	4.7	4.1	2.9	6.5
EXER: 0966 NATL % 31.8 (Text for this exercise was not released)																					
UNADJ EFFECT	4.1	-7.3	-5.1	8.2	11.3	-10.4	-13.7	-4.5	13.0	-3.6	6.9	-7.2	-6.0	1.4	-3.8	-25.6	-10.5	-1.9	5.1	11.2	-17.7
STD ERROR	3.2	3.4	3.0	4.4	1.8	1.8	5.7	8.1	4.5	7.3	4.0	3.4	3.8	0.9	6.9	4.3	3.1	5.7	3.9	4.2	6.1
BAL EFFECT	3.1	-3.8	-5.9	7.8	11.3	-10.4	-10.7	2.1	5.1	-5.8	6.4	-4.2	-4.5	0.7	1.0	-21.8	-7.4	-1.2	3.8	10.1	-18.9
STD ERROR	2.9	3.9	2.9	3.8	1.6	1.6	5.7	7.2	4.7	6.4	3.4	3.1	3.7	0.9	7.1	5.0	3.2	5.6	3.4	3.8	6.9
EXER: 0967 NATL % 12.1 (Text for this exercise was not released)																					
UNADJ EFFECT	7.5	-3.9	-2.0	-3.2	5.6	-5.2	-4.6	4.1	11.8	5.7	-4.2	0.5	-7.1	-0.2	1.4	0.8	-3.8	-6.2	-0.6	10.4	-4.3
STD ERROR	3.3	2.4	2.3	2.7	2.0	1.8	4.3	5.2	5.1	6.4	2.2	3.1	2.1	0.6	3.8	7.4	2.1	2.7	2.7	3.9	4.4
BAL EFFECT	6.2	-2.0	-0.3	-5.4	5.7	-5.3	-3.3	4.8	8.1	5.1	-3.0	-0.2	-5.6	-0.4	2.1	2.2	-2.4	-7.1	-0.8	9.5	-4.8
STD ERROR	2.9	2.5	1.9	2.4	1.9	1.7	3.7	5.9	4.3	6.3	2.3	2.6	2.2	0.6	4.2	7.5	2.1	3.1	2.6	3.7	3.9

OBJECTIVE: Have attitudes about and appreciation of scientists, science, and the consequences of science that stem from adequate understandings.

EXER: 0968 NATL % 45.0 (Text for this exercise was not released)

UNADJ EFFECT	-7.1	-3.3	5.3	3.5	-7.4	6.9	7.1	-13.1	2.5	3.0	-1.6	0.4	0.3	0.3	4.9	-20.8	-0.2	-3.0	-5.1	5.4	6.6
STD ERROR	3.5	5.3	3.7	5.5	2.3	2.1	6.6	6.8	6.0	5.7	4.4	5.5	4.1	0.7	5.3	10.5	2.9	4.3	3.4	4.2	10.7
BAL EFFECT	-8.7	-5.8	6.6	5.5	-7.9	7.4	9.8	-17.7	2.6	4.0	-1.4	0.8	0.5	-0.5	11.2	-21.3	0.2	-4.0	-4.1	4.5	8.1
STD ERROR	3.4	5.6	3.7	5.7	2.2	2.1	6.7	6.8	5.8	5.9	4.4	5.9	4.2	0.8	5.1	11.8	2.9	4.4	3.6	4.0	9.6

EXER: 0969 NATL % 25.7 (Text for this exercise was not released)

UNADJ EFFECT	0.7	-1.9	-3.7	4.8	9.1	-8.1	-17.6	-2.5	12.9	-1.0	-3.3	3.5	-3.3	0.8	-10.6	10.1	-8.6	-2.7	0.0	12.4	-15.2
STD ERROR	4.1	5.2	3.3	4.7	2.6	2.4	3.2	5.7	6.4	5.2	3.7	5.8	3.3	0.9	3.9	16.2	3.7	3.7	3.9	4.0	5.6
BAL EFFECT	-0.3	-0.8	-2.1	3.3	8.6	-7.6	-14.2	5.3	4.5	0.2	-5.1	6.6	-0.7	0.6	-9.3	10.7	-7.0	0.1	-0.0	9.6	-17.4
STD ERROR	4.2	4.9	3.3	4.3	2.4	2.1	3.7	4.9	5.7	5.7	3.5	5.7	3.4	0.9	4.9	12.1	3.7	3.7	3.9	3.7	5.1

EXER: 0970 NATL % 14.0 (Text for this exercise was not released)

UNADJ EFFECT	1.9	-3.5	-3.4	5.4	5.8	-5.3	-8.6	-7.1	9.9	-0.9	5.6	-7.6	-2.1	0.7	-4.7	-4.8	-5.3	-0.4	6.0	1.9	-11.2
STD ERROR	2.8	3.5	2.6	5.9	2.2	2.1	3.2	3.3	4.6	5.3	3.9	2.8	3.5	0.6	4.0	5.0	2.3	3.9	4.1	2.8	2.8
BAL EFFECT	1.8	-0.9	-3.6	3.7	5.4	-5.0	-7.7	-4.3	6.9	-2.5	5.3	-6.1	-1.7	0.1	-0.6	-1.7	-2.7	-1.0	4.9	0.7	-11.8
STD ERROR	2.4	4.0	2.7	5.4	2.0	2.0	3.4	4.1	4.7	5.6	3.3	2.4	3.6	0.6	4.5	6.2	1.9	3.7	3.3	2.7	3.4

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